THE COMPLETE PHOTOSHOP CREATIVE HANDOOK

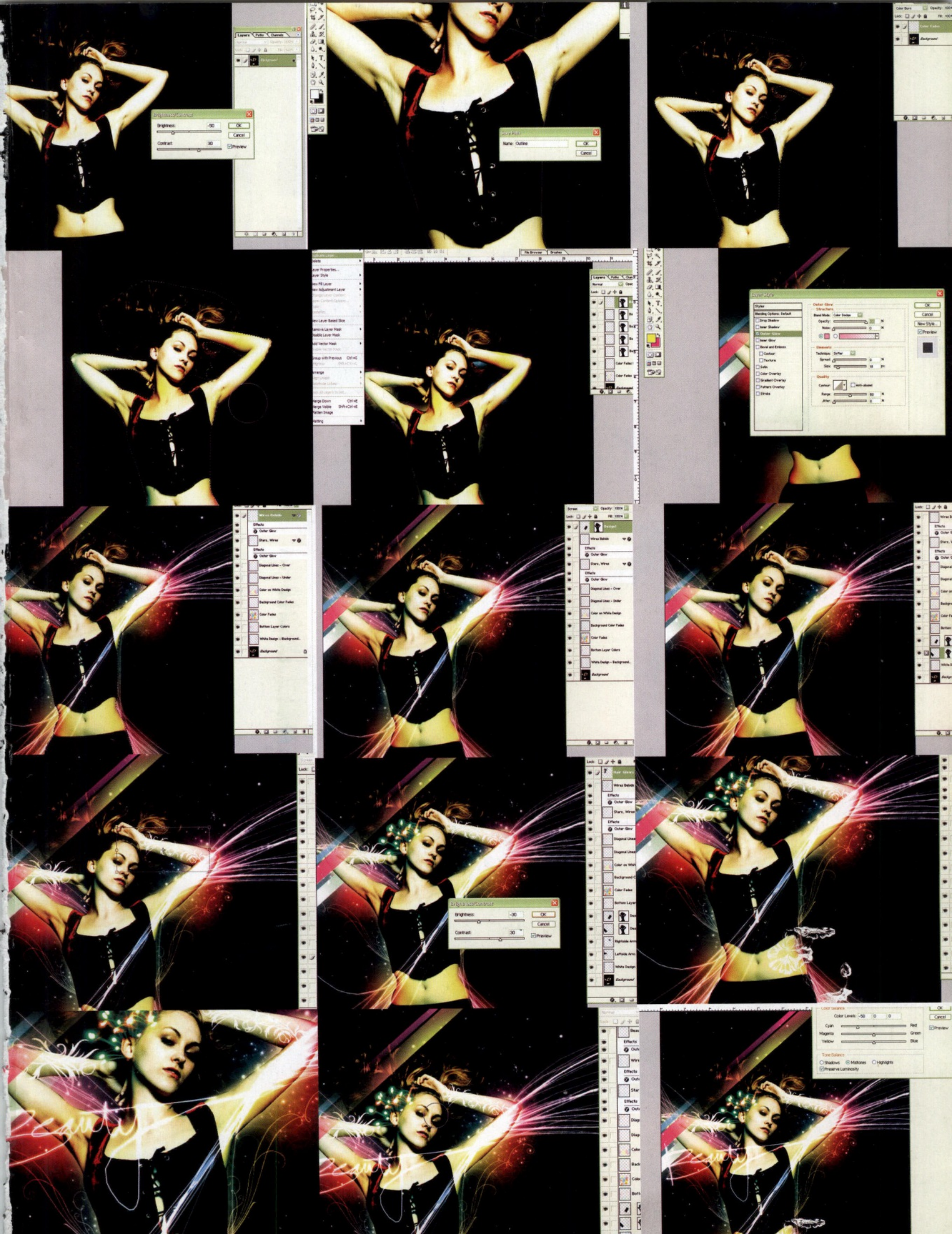
CREATE THIS COVER IMAGE
turn to p172

EXCLUSIVE TO WHSmith

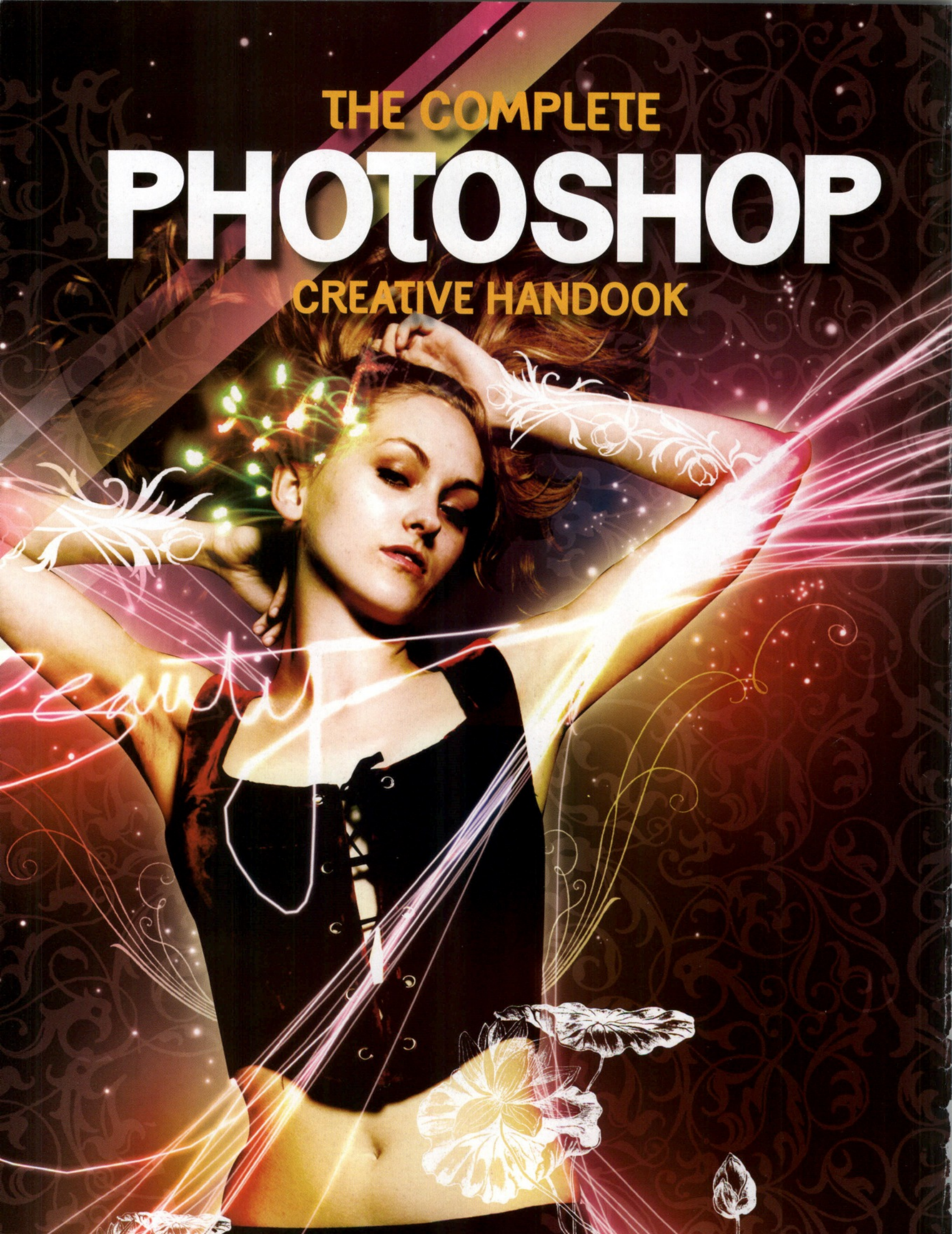
40 inspirational tutorials from the world's leading Photoshop artists – improve your imaging skills today!

FREE DVD! Full software • Video training • Plug-ins

FROM THE MAKERS OF COMPUTER arts



THE COMPLETE PHOTOSHOP CREATIVE HANDOOK



Be inspired!

"I found that I could say things with colour and shapes that I couldn't say any other way – things I had no words for..." Georgia O'Keeffe

Are you the kind of digital artist that visualises something, then experiments with *Adobe Photoshop* in an attempt to realise your inspiration? Or do you use your perception of the advantages and limitations of Photoshop's capabilities to guide the way in which you go about creating and editing your images? Though few people are likely to use either of these methods exclusively, this dichotomy clearly illustrates the fact that while the discipline of image manipulation is certainly an art, the use of *Photoshop* as an application could more appropriately be called a science. The key to creating memorable visual impact lies in maintaining a balance between these two approaches.

Since both art creation and appreciation are such subjective activities, the ways in which this balance is going to be achieved will be completely different for every user, as everyone's ability, experience, tastes, influences, goals, culture and personality are unique. Giving you the confidence in your own inspiration and abilities by providing 260 pages of new skills, practical experience and professional examples is the raison d'être of *The Complete Photoshop Creative Handbook*.

The authors are all masters in their field: some consider themselves as multimedia designers, some make their living primarily as photographers, some labour under the job description of web designer, and some are known as simply artists or designers in general. Apart from contributing regularly to top monthly creative magazines such as *Computer Arts*, *Digital Camera Magazine*, *3D World*, *Computer Arts Projects* and the *Adobe Photoshop Focus Guide*, they all have one thing in common: they are all masters of *Photoshop*, and we guarantee they can teach you many new skills, no matter how much you thought you already knew. After all, *Photoshop* really is one of those programs where you still discover new things every time you use it.

There's no shortcut to consolidating your Photoshop skills – this Handbook will unleash your creativity and show you how to reap stunning rewards

Disc-over new abilities

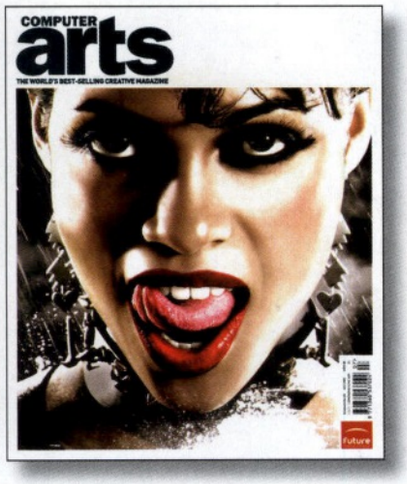
As well as trial versions of *Photoshop CS 2* and *Illustrator CS 2*, the DVD accompanying *The Complete Photoshop Creative Handbook* is packed with all the files you need to follow our tutorials, plus a great selection of additional software to help you get more from your images. *Machine Wash* plug-in filters create a convincing – and very fashionable – distressed look to images. Enjoy the professional-quality sample images from Dream Stock and Turbo Photo to use in your manipulation projects.

As you'll find out in Chapters 3 and 4, Photoshop does not exist in isolation: it is an integral part of many wildly different design processes. *Xara 3D 3* is included as a full product on the DVD, along with trial versions of such awesome apps as panorama creation utility *Stitcher Express*, three-dimensional designer *Cinema 4D*, and *Poser 6*'s figure creation abilities. As well, you might be amazed to discover that *SiteGrinder* can convert single *Photoshop* documents to web pages with a minimum of fuss.

And if you're wanting to learn more about image manipulation, our QuickTime video tutorials contain all the information you need to boost your skills with *Painter* and using *Photoshop* with digital video. Just pop the DVD into your PC or Mac, turn the page and prepare to open your mind to a whole new galaxy of possibilities!

matt

Matt Nailon **Operations Editor**
digitalbookazines@futurenet.co.uk



CHAPTER 1

Photoshop essentials

Rather than dwell on tool tips, these features explain the design fundamentals that shape your approach to realising your creative vision...

10 Getting started with Semiotics
16 Profile – atomicattack
20 Photoshop for professionals
26 Mixing design elements
31 Easy Colour Management
36 Resolution explained
42 Channels explained
48 Batch processing your images
54 Fine-art photography
60 Photorealism in Photoshop

CHAPTER 2

Expert Photoshop Effects

Once you've practiced these techniques following our examples, you'll have the confidence to use them in your own image manipulation projects...

68 Profile: Martin Evening
70 (Don't fear) the filter
76 60 Photoshop Filter Tips
84 Filters: Blurred vision
90 Age your images
96 Halftone and bitmap effects
102 Dynamic lighting
108 Burn effects
112 Advanced Brush Tool effects
118 Textured brushes
122 Distort with style
128 Decay effects
134 Water effects

CHAPTER 3

Photoshop 2D and 3D techniques

Though it started life over a decade ago as a simple image retouching tool, these projects show exactly why Photoshop's versatility makes it the world's favourite digital art application...

140 Profile: Me Company
144 Faces in Photoshop: Eyes
147 Faces in Photoshop: Noses
150 Faces in Photoshop: Lips
153 Multi-element artwork
158 Photoshop in fashion
164 Abstract type
168 Vector drawing techniques: book cover designt
172 **COVER TUTORIAL:** Add another Dimension
176 Pixel Perfect
182 Freeform 3D with Maya
188 Anaglyph images
192 Abstract Glow
196 Modern city composition
202 Spray can effects

CHAPTER 4

Flexible Photoshop

As well as being fully compatible with all the other elements of Adobe CS 2, Photoshop can add extra sparkle and design flair to art projects where other software suites are being used as the core productivity applications...

210	Profile: Fusako Akimoto
212	101 Photoshop tips
224	Get overprinting
230	Graffiti-style Flash
234	Graffiti vs Digital
238	Improve your figure: Photoshop & Poser 6
242	Photoshop in motion: working with AfterEffects

CHAPTER 5

Disc pages

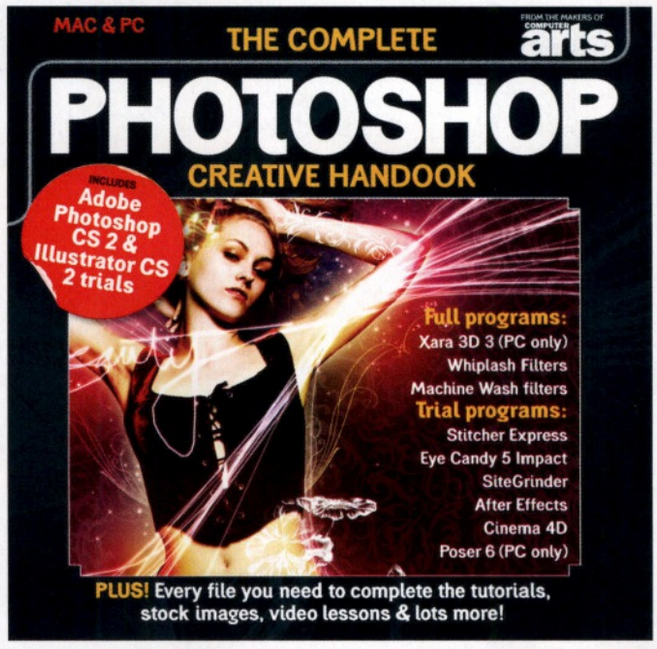
Get more out of your Photoshop experience by making use of this premier software selection...

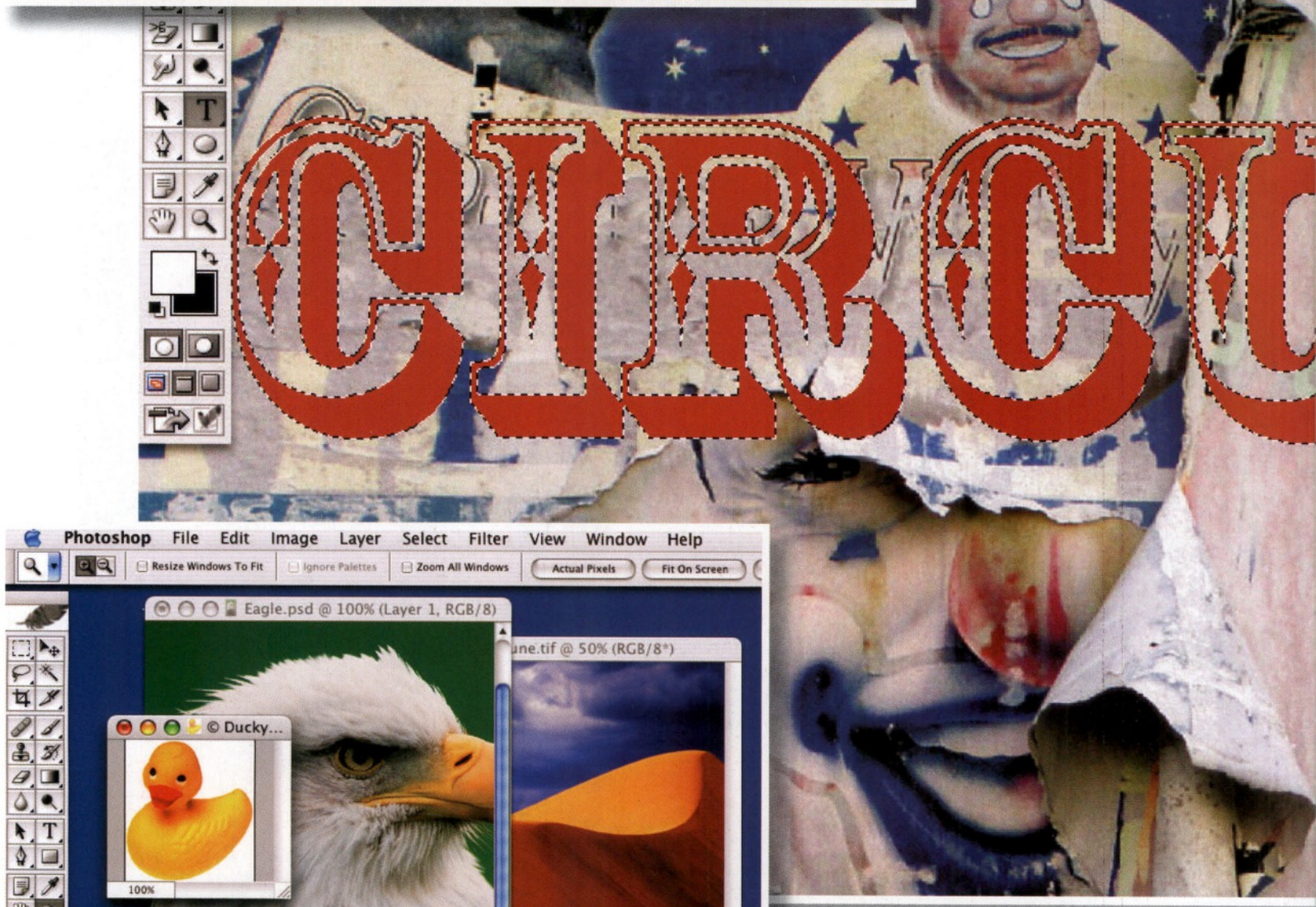
251	Adobe Photoshop CS 2 (30-day trial)
252	Adobe Illustrator CS 2 (30-day trial)
253	RealViz Stitcher Express 1.0 trial
254	Poser 6 trial
255	DVD Highlights: Filters, plug-ins and more!

ON YOUR PACKED DVD

Essential software

- Adobe Photoshop CS 2 30-day trial **for Mac & PC**
- Adobe Illustrator CS 2 30-day trial **for Mac & PC**
- Xara 3D 3 (PC only) **FULL PROGRAM**
- Whiplash filters **FULL PROGRAM**
- Machine Wash filters **FULL PROGRAM**
- All the files you need to follow the tutorials
- Video tutorials, stock images **and lots more!**




ew Window Help
CIRC

Photoshop File Edit Image Layer Select Filter View Window Help
Resize Windows To Fit
Ignore Palettes
Zoom All Windows
Actual Pixels
Fit On Screen
Eagle.psd @ 100% (Layer 1, RGB/8)
© Ducky...
100%
100%

1

Photoshop essentials

Rather than dwell on tool tips, these features explain some of the design fundamentals that shape your approach to realising your creative vision…

10	Getting started with Semiotics
16	Profile – atomicattack
20	Photoshop for professionals
26	Mixing design elements
31	Easy Colour Management
36	Resolution explained
42	Channels explained
48	Batch processing your images
54	Fine-art photography
60	Photorealism in Photoshop

GETTING STARTED WITH Semiotics

The science behind semiotics may make your head spin, but it's essential that you're aware of the messages your images convey. **Mark Penfold** gets to grips with the relationship between images and their meaning

Designers, illustrators and typographers all practise semiotics on a daily basis, but rarely is the subject discussed in isolation. Perhaps because of this, it's seen as a slightly esoteric discipline, reserved for academics rather than the design professionals themselves.

Conceived as a science capable of explaining the relationship between systems of images and meanings, semiotics deals with the same raw material as the graphic professions; it just uses a different vocabulary.

"In this country, what we need is more intellectual input into design," says typographer and designer Jonathan Barnbrook, voicing a belief common among thinking professionals. Creative professionals need to give themselves credit for the work they're already doing if they're to avoid becoming nothing more than 'stylists'.

Sign language

The dictionary describes semiotics as "the study of signs and symbols", and goes on to highlight the relationship between written signs and the concepts they represent in the real world, either as ideas

"letterforms are full of cultural inconsistencies and flukes of history"

Illustration by Fibre www.fibredesign.co.uk

or objects. For the designer, the creative mark maker, it's therefore about the complex relationship between images and their meanings.

Graphic artists take various visual fields, and fill them with constantly changing symbols and signs to convey an range of meanings. As Andrew Foster, an illustrator and lecturer at Central Saint Martin's College of Art and Design, points out: "Illustrators are visual thinkers, not stylists."

Yet, despite this dry reputation, Andrew Stiff, head of the Digital Arts MA at London's University of the Arts, says, "[Semiotics] has allowed us to re-evaluate our surrounding systems and processes. No one working in a visual profession can ignore this subject's importance."

Barnbrook backs him up: "Deconstruction is the reason I'm a typographer," he says. "There's always a difference between the signified and the signifier." A firm believer in the potential that semiotics can unlock, Barnbrook believes: "Letterforms are full of cultural inconsistencies, flukes of history and contradictions."

Hidden meanings

The creative possibilities that emerge from the gaps between meaning and object are open to exploitation by the clever designer. According to Barnbrook, half the fun comes from playing with relationships, which are "often unconsciously understood by the viewer". As Foster notes, "Illustration can change people's opinions."

The viewer's unconscious ability to make connections is effectively the b-side of semiotics. "There may be a desired meaning in the relationship between signifier and signified on behalf of the creator, but it is the audience that has to interpret the meaning," says Stiff.

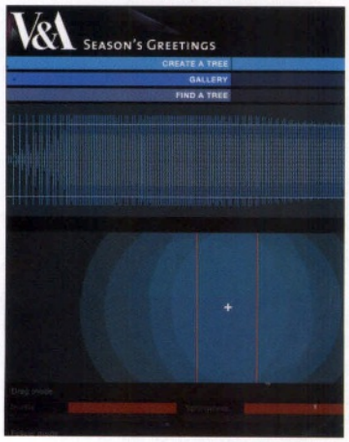
Samples from this summer's MA Degree show at Camberwell College of Arts. For further info, visit **www.madigitalarts.co.uk**.

Context is paramount

Ferdinand de Saussure, Swiss linguist and philosopher, is widely credited with the invention of semiotics. His concept? A science capable of understanding all possible systems of signs, from language to music and, of course, the visual arts.

Although de Saussure concentrated his efforts on linguistics, he and many of his followers believed that sign systems worked in similar ways, regardless of their particular make-up. One such follower was the radical French thinker Roland Barthes, whose seminal work in the field, Mythologies (1957), exposed the relationship

SLIM fluffy SMALL Times New Roman



Bloc's seasonal site for the V&A museum explores non-linguistic communication, using interaction to derive a stylised Christmas tree design. As Bloc media's creative director John Denton points out: "More fervent users of the internet now have a new language at their disposal."

DESIGNER DEFINITIONS

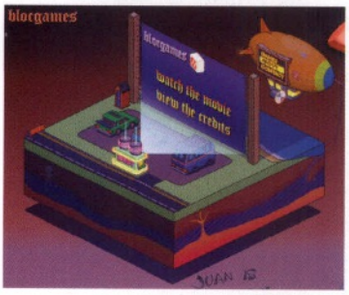
Three industry experts on what semiotics means to them..

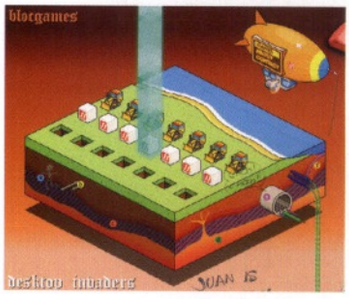
"Semiotics is important for designers because it's all about the many ways design is used to communicate with a body of people. Today we have lost semiotics as an aid to communication, whether it be abstract or specific messages."
Mike Cina, WeWorkForThem
www.weworkforthem.com

"Semiotics comes with the territory. We are communicators, therefore we deal with semiotics. Whether or not we are aware of this is another matter. Semiotics is the science of communication, but we are the communicators, not the scientists."
Jeff Knowles, Research Studios
www.researchstudios.com

"Semiotics is important because it helps us humans understand that reality is more than a purely objective existence, which is independent of our interpretation.
It teaches us that reality is a system of signs. Seek and ye shall find."
David Johnston, Red Design
www.red-design.co.uk

"As soon as you imbue an icon or image with any cultural reference, you start to dilute its effectiveness"





Bloc's John Denton remains unequivocal about the importance of semiotics: "Our understanding of the semiology of computing is what enables almost all GUIs to have any meaning at all."

between visual communication and the status quo as a kind of myth-building project.

Taken as a whole, signs form a spider's web of interlinked meanings and symbols, concepts and the images that suggest them. But these relations can't be taken in isolation, context is of paramount importance. Essentially, an image relies on context to bring out subtle meanings, and an understanding of the viewer's context will enable the image's creator to better code meaning into his work.

Reading the signs

Signifier and signified – together, they constitute a sign, the basic object studied by the science of semiotics. The image is the signifier, the concept or object the signified. But for graphics professionals, there's just one question – how are the two linked?

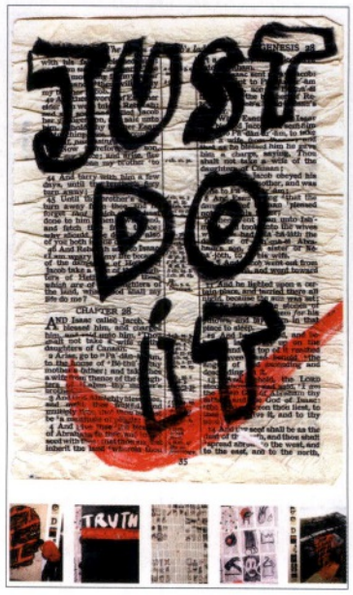
Where language is involved, it's clear that the link between either spoken or written symbols and the signified object is itself completely arbitrary. Different languages operate on the same objects, for example. A cat could have been called a dog or an abacus, it's just a convention.

However, where the meaning of visual symbols is concerned, the story gets a little more complicated. At the most basic level there's a common understanding of the meaning held by images: "There are certain symbols that have a generic meaning to us all," explains Barnbrook. "These can be manipulated just enough to make the conveyance of information or the putting over of an idea achievable."

Foster highlights the grim reaper as a symbol of death: "At this level, the basic symbolism relies on cliché," he says. "Good illustration should go beyond that. All forms of communication have a level of eloquence, but good illustration should challenge the viewer."

Web icons

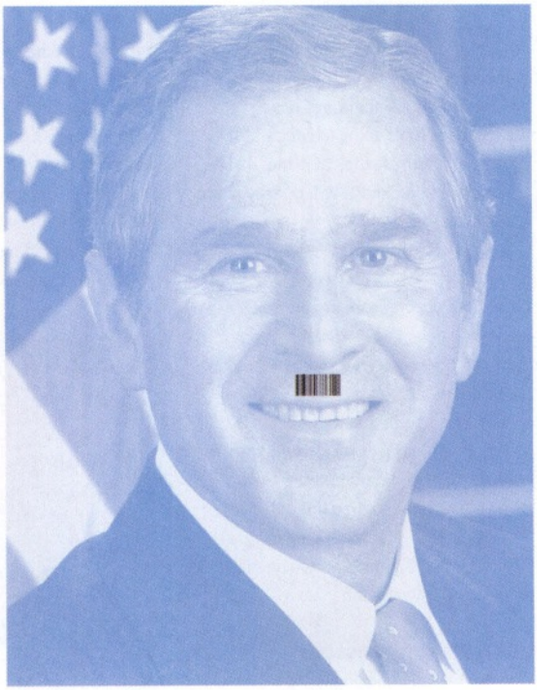
An obvious, up-to-date counter-example comes in the shape of the internet, where it's important that signs and symbols should be unambiguous and accessible



"You can look at it from a personal position," says Andrew Foster, a lecturer at Saint Martin's College, of his work. "I have my own purpose in making the image. It talks to me, and that's my number one goal. The aim is to connect public and private understandings."

to everyone. "The answer is to make them as generic as possible," says John Denton, creative director at Bloc media. "As soon as you imbue an icon or image with any cultural reference, you immediately start to dilute its effectiveness." This being the case, it follows that playing around with

TOP Barrister MONO SPOTS



meanings in this situation would be counter-productive.

Creative misunderstandings

According to Stiff, "An artist or designer is someone who experiments with our understanding of objects and meaning." This experimentation is made possible because images can have multiple associations, but this can be a hindrance. The meaning can easily become buried, or lost altogether.

Barnbrook gladly welcomes the complication: "Thankfully, there is the unknown factor. Everybody brings their own universe of experience to the perception of a piece of work. That misunderstanding can be one of the most creative acts a person can do."

But how does this help when you're trying to decide how to convince an audience of a client's message? Stiff suggests that designers should take a broader view: "Perhaps," he says, "we should enjoy the situation and experiment with greater freedom".

Adds Foster: "If you're producing work

JARGON

Structuralism A school of thought that considers the meanings of symbols to be determined by their difference from each other and their place in the structure of language.

Pragmatics The relationship between the viewer and the system as a whole.

Semantics Semantics deals with the relationship between the sign itself (for example, a word) and its meaning.

Syntax The relations between signs (what makes one combination meaningful and another nonsense).

Post-modernism An umbrella term used to refer to a cultural shift away from confidence in the progress of history and an acceptance of mistake and accident.

Taxonomy The process of classification. With regard to semiotics, this is an attempt to get at the structure of the language under consideration.

Denotation The denotation of a sign is the actual thing itself. For elephant, this would be the large-eared quadruped.

Connotation Connotative meaning is the implied meaning of the word. Taking elephant again, this could include heavy, wise or endangered.

Mythology A connotative system built up around a particular sign.

Hermeneutics A kind of textual archaeology, a reading and re-reading of a text in an attempt to dredge up all its possible meanings.

THE WEB

The internet is a hive of semiotic development

There are few places where semiotics is more apparent than the internet. As Andrew Stiff, head of the Digital Arts MA at London's University of the Arts, says, "The internet is one obvious situation where the artist's skill in understanding semiotics is critical."

The global nature of the internet means that almost nothing can be assumed about the viewers of a particular site; consequently, certain information must often be conveyed without language. Bloc media's John Denton explains the value of metaphor: "It reduces the time people have to spend deciding what things are supposed to do."

Interestingly, Denton highlights how internet users have addressed the identity problem confronting designers: "Previously there was a lot of talk about the equality of the net, as your identity could easily be concealed," he says. "There's now a range of ways in which people create a visible identity." This identity building takes the shape of avatars, emoticons and even "bastard mark-up" used to denote emotional content.

SLIM

fluffy

SMALL

Times New Roman

BOTTOM

WARM

Aliased

SOLID

TOP

traditional

drawn

for a billboard, then the viewer will only have a second or two to take it all in. In this situation, your image has to scream its message if it's going to succeed." So the first thing to look at is the likely message that an image will convey to the people that see it.

"I'm an illustrator because I enjoy it," says Foster. "Visual play is all-important – without it, your work becomes average." However, he acknowledges that "one of the hardest things is trying to mix the public and the private".

Foster suggests that the real job is to match our personal set of visual meanings with those of our anticipated viewer. In a commercial setting, this is further complicated by competing messages: "This is both its great strength and its great weakness," says Foster.

Understand your needs

The process of choosing images and placing them in a context that will convey your intended meaning was termed by Barthes as "coding". But, as we've seen, this project is fraught with difficulty if your goal is to control the exchange between viewer and image, to narrow the permutations so that only a single interpretation is allowed.

Instead, we should take pleasure in the fact that, as Barnbrook says, "there can be both positive and negative misunderstandings".

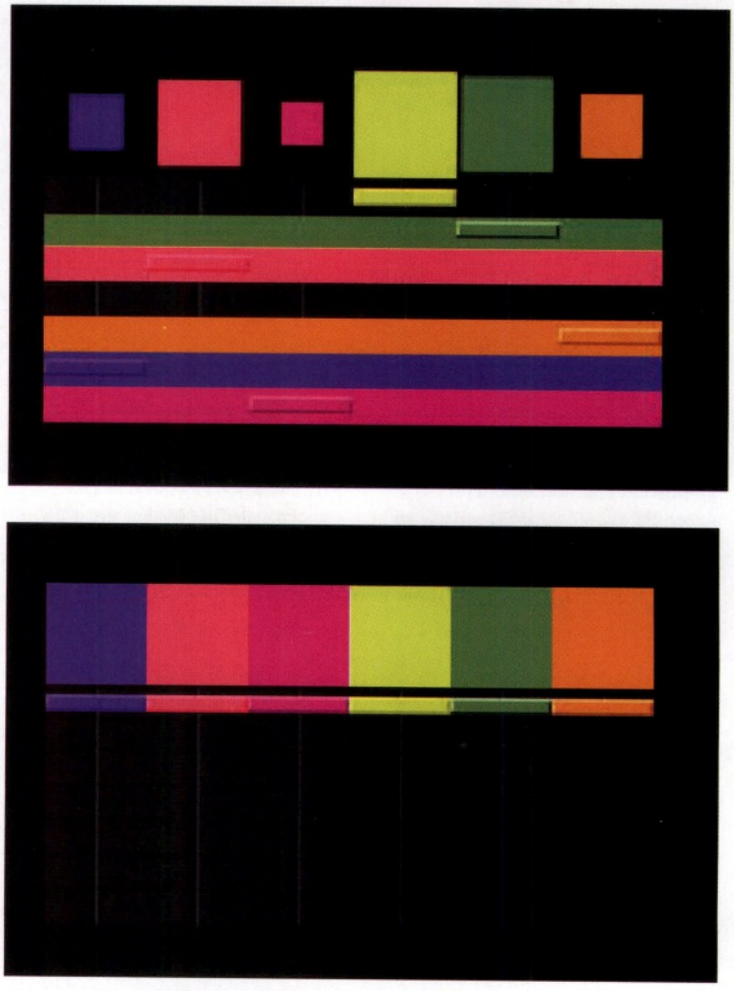
Once free of the desire to exert control, we can start to properly explore possibilities within the work we create. "It's about understanding your own needs", adds Foster.

Barnbrook is of a similar mind: "I could never accept the Modernist notion of a typographer being just a communicator of the client's message." There must, then, be an element of personal communication on the part of the designer.

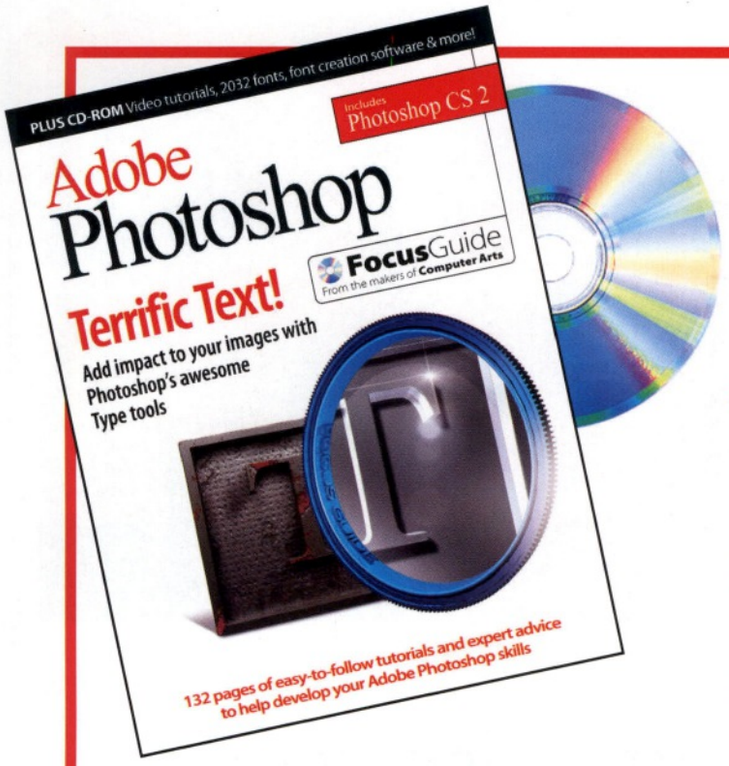
"The method of placing signs and symbols in a piece of work – an advert, painting or film – will always be about craft," says Stiff. Which brings us, at last, to one element of a composition that can be controlled with some degree of accuracy – the production values.

"No matter how good an idea is, the craft has to hold me," admits Foster. And he's not alone in insisting that the images he consumes are of a certain quality. At least in part, this feeds back into the idea of layered meaning.

It's a delicate balancing act, but talent is a visual language of your own which others find attractive. As Foster puts it: "With flair, you can take a subject somewhere else." ■



www.playstationemotions.com challenges viewers' assumptions about the meaning of particular forms and colours by using a specially developed visual language.


PLUS CD-ROM Video tutorials, 2032 fonts, font creation software & more!
Includes Photoshop CS 2
Adobe Photoshop
FocusGuide
From the makers of Computer Arts
Terrific Text!
Add impact to your images with Photoshop's awesome Type tools
132 pages of easy-to-follow tutorials and expert advice to help develop your Adobe Photoshop skills

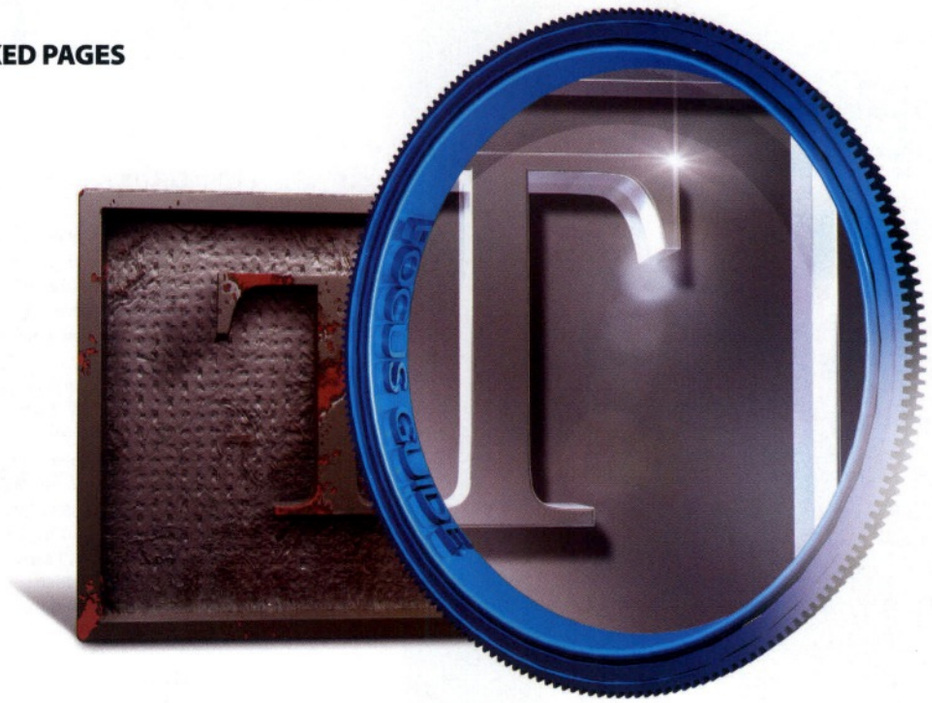
Adobe Photoshop

FocusGuide
From the makers of Computer Arts

Terrific Text!

Add impact to your images with Photoshop's awesome type tools

132 INFORMATION-PACKED PAGES
PLUS FREE CD-ROM



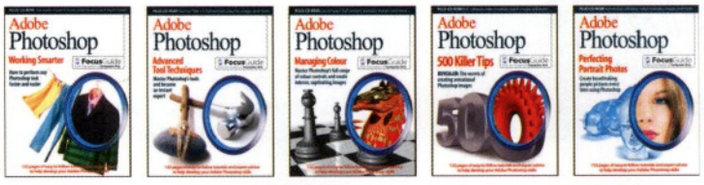
ISSUE 30
ON SALE
THURSDAY
17 NOVEMBER

The world's best image-editing program isn't just for the pros! We'll help you master Photoshop's essential tools and features

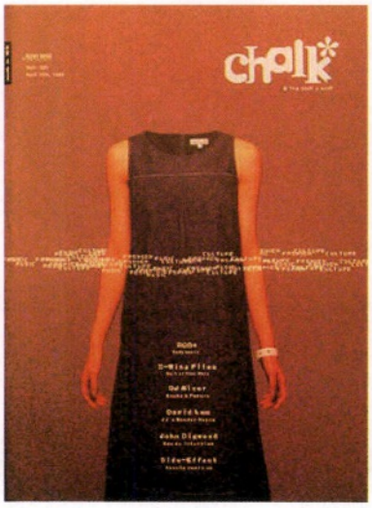
GET YOUR COPY NOW

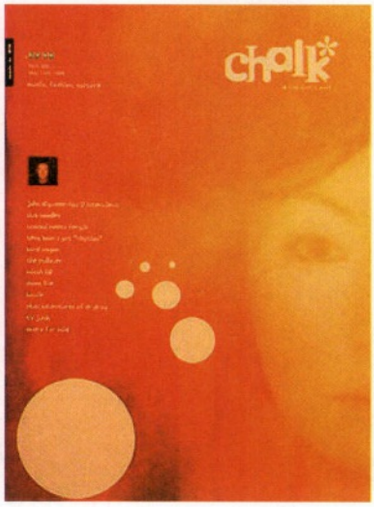
Available from WHSmith *and other retailers*

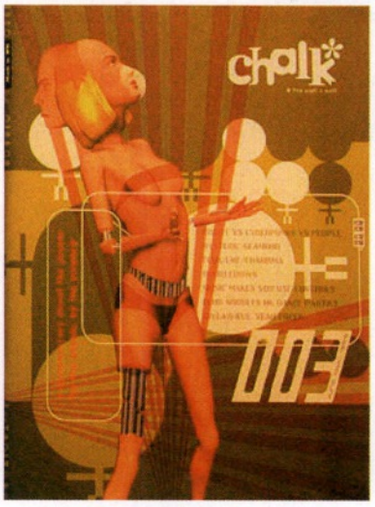
CONTENTS SUBJECT TO CHANGE

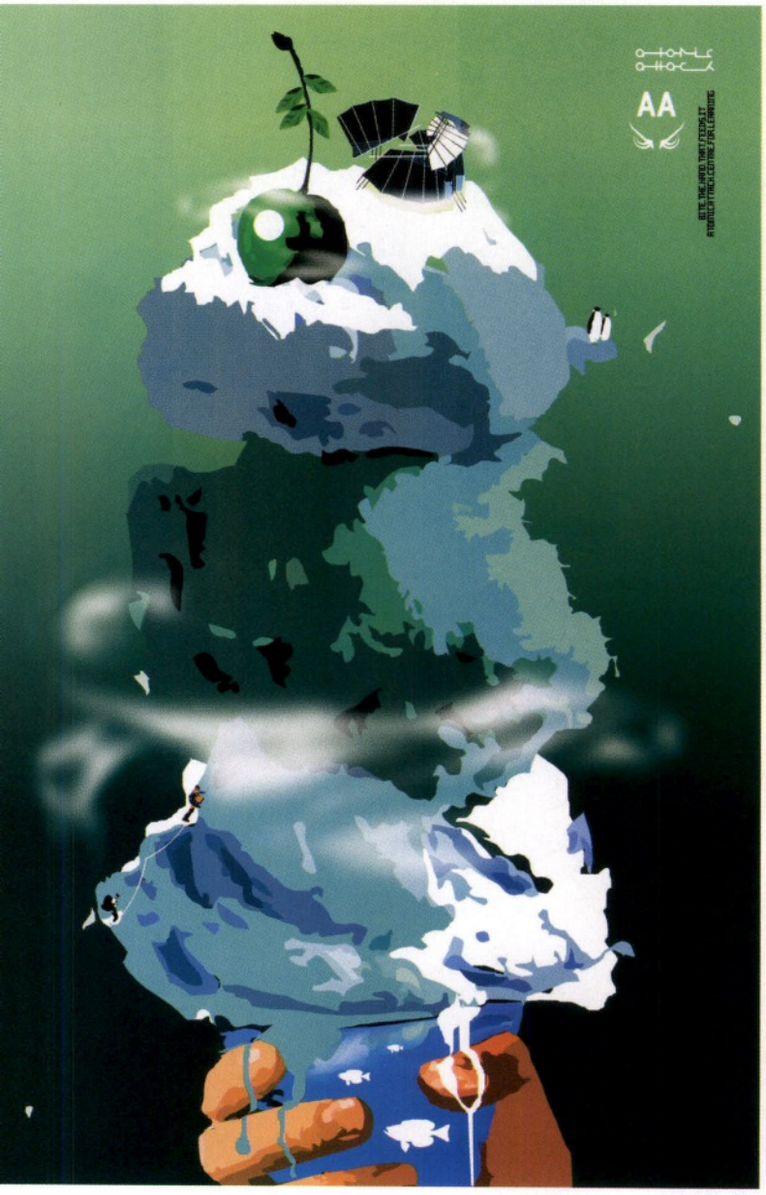


MISSED AN ISSUE? CONTACT UK 0870 837 4722 OVERSEAS +44 1858 438 794









atomicattack

"It's boring pretending you're a designer if you have nothing to say." atomicattack goes on the offensive...

Hong Kong-based designer Calvin Ho has something to say: "That's my style," he explains, "there's an underlying message that comes with the work; it's not just a pretty picture... design is intention."

This approach to design has made him a regular fixture with the likes of *IdN*, *Shift Japan* and the wonderful *Chalk* magazine. "I always try and develop one style, smile and move on to something completely different," says Calvin. atomicattack is a moving target.

Calvin started out studying fine art in Sydney, but something went wrong: "I was a keen young kid, and looked forward to visiting the final year graduate exhibition." So far so good. "But to my dismay," he continues, "I wasn't inspired by their work. I got scared, and ditched this and started to rethink what I would do."

These ruminations led Calvin into design in the late 1980s, a time when the field was undergoing a revolution of its own. Still, the digital age of design lay in the future for Calvin: "I never touched a computer until my second job. I was a paste-up artist at a local yellow pages doing ads in Sydney."

Not a job that anyone dreams of doing, but Calvin was determined to follow his star: "Even with the crappy work that I had to produce, I would always carry around a sketchbook to doodle in and dreamt about doing fashion magazine layouts, photography and illustration." This dogged determinism was to pay off.

Rebellious streak

When his parents returned to Hong Kong in 1992 Calvin decided to join them, quickly establishing himself as a wilfully minded creative director: "Nearly every boss would label me as the 'rebel', since I always wanted to challenge the norm, but being in the corporate field, it was a tough battle."

It seems that all is not well with the design establishment in Hong Kong: "It's very tough to be creative and get away with it in Hong Kong," says Calvin. "Clients like you if you're dirt cheap and you can copy other people's work."

This state of affairs didn't suit Calvin, who was keen to make a mark of his own: "It's embarrassing that designers in Hong Kong copy without any guilt... and the most tragic thing is that they blame the client, saying it's what they want, that it's not their fault." atomicattack was born in 1996 and Calvin was determined to be original.

Creative attack!

While he says he's been lucky with the people he's worked with in Hong Kong, notably as Creative Director on *Chalk* magazine, Calvin has looked further afield for clients willing to give his diverting brand of cut-up imagery a fair shout. "I found that by concentrating on Japan, the US, UK and Europe, clients are more open-minded, and they almost beg for originality."

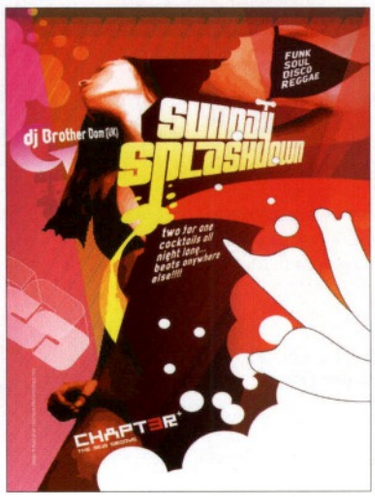
And when he's working, the primary resource isn't digital – it's fully analog. "It's my brain," he explains. "The software would be all those years I've developed what is me. To produce work for you, it's 30 years of developing the soul and mind, and a focused attitude."

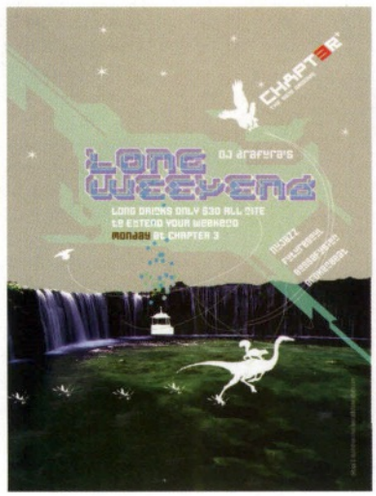
The other great advantage is that "updates come every day and they're free. I read

Far left: Issues 1, 2 and 3 of *Chalk* magazine. atomicattack released seven issues in 1999–2000. Calvin says the mag enabled him to vent his frustration with life in Hong Kong.

Above and left: "Nearly every boss would label me as a rebel," says Calvin, explaining the reaction to his work in Hong Kong in the early 90s.

Below: atomicattack was commissioned to help promote the Chapter 3 club in Hong Kong. The aim was "to place Chapter 3 as the coolest Hong Kong club for music and people".





This page: Two results of a collaboration between atomicattack and photographer Ann Woo. "I was presented with a set of random photos," says Calvin, "and I had to come up with a narrative collage".

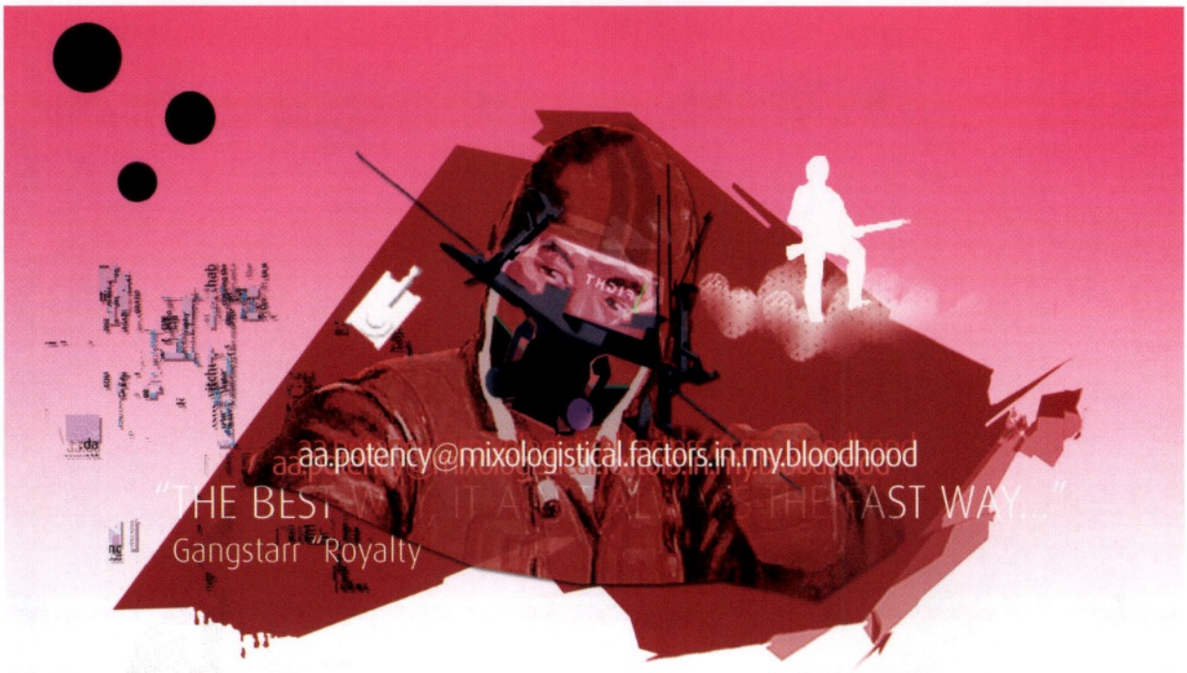
books on human psychology, and it helps in understanding how to make my work react to the viewer". This is never more clear than in Calvin's recent collaborations with photographer Ann Woo, which show his collage work in a new light.

Inspiration has to come from somewhere, and if you forswear the influence of other designers, where do you look? For openers, he says it's "hard to explain". So he elaborates: "Provoking some emotion and attitude towards the project before you start is a great beginning."

Calvin's approach is a kind of free association: "I use music and random references, but never design books, to spark off ideas." He continues: "I have two big speakers in my room, and basically they're never off." So he surrounds himself with things that can spark off a chain reaction: "Right now I live and work under one roof. It is so cool. I have wall-to-wall books, magazines, records, CDs, and game consoles." A kind of critical mass effect.

Calvin also DJs at some of the clubs atomicattack produces flyers for, so music is a big part of his life. "Not only do I play music when I design, I have fleeting moments where I just escape from behind a computer to behind the decks." It's during moments like these that ideas pop into his head, he says, kind of spoiling the picture by adding: "Beats coming up with ideas while doing a shit." ■

To see more of atomicattack's work, visit **www.atomicattack.com**.



Left: This is an image from Calvin's show reel, a work in progress. Asked about his style, Calvin says he always tries to be original, never staying in one spot too long.

Bottom left: Shift.jp.org commissioned a series of images for a fashion show by HK fashion label RCB. "We went over to Sapporo," says Calvin, "and these were shown as huge backdrops for the show. It was great fun".

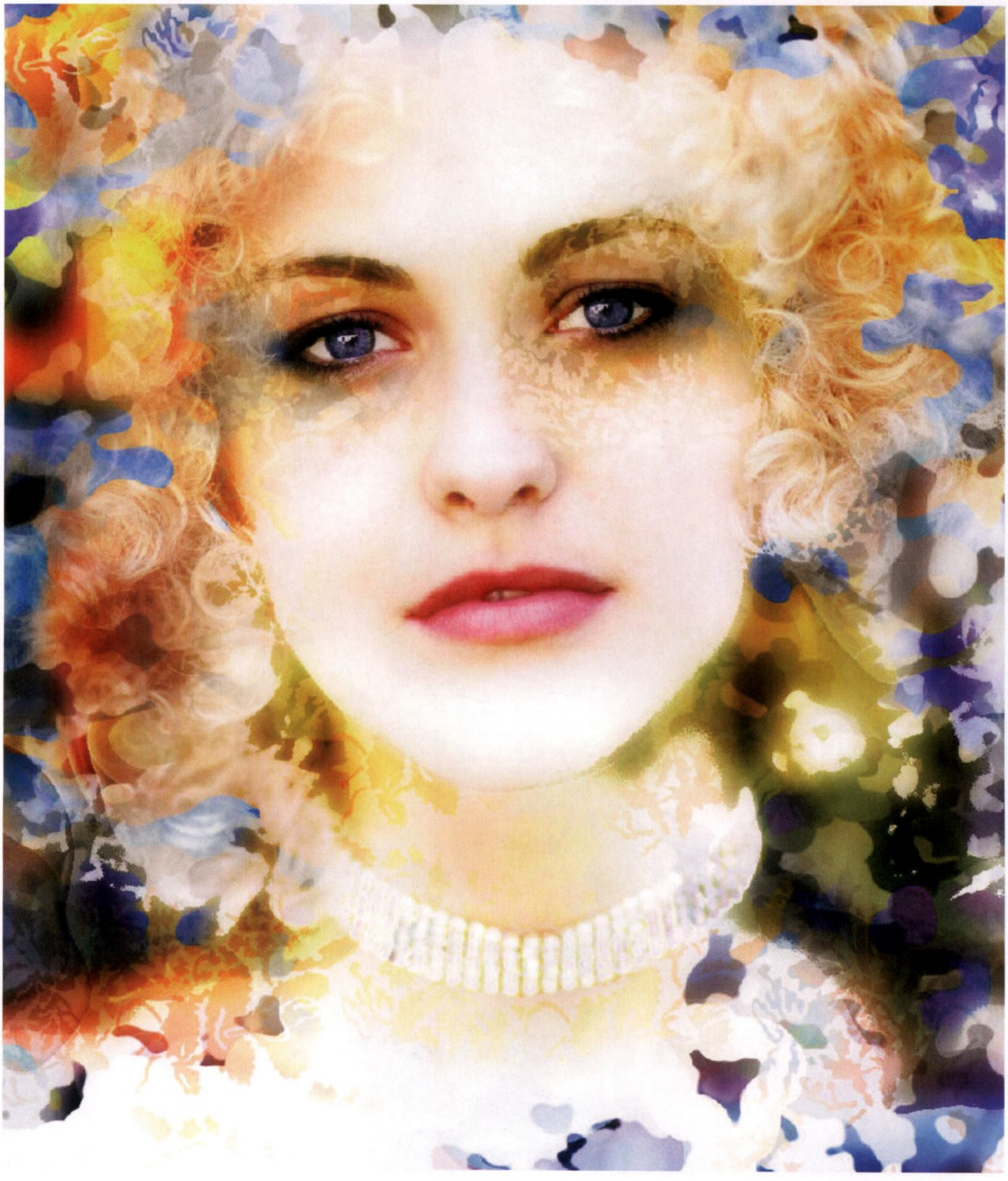


Illustration by Allan Finamore www.afinamore.com

Photoshop for professionals

We all know that graphic designers love Photoshop, but it's also the favourite of many other creative professionals...

Ask any graphic designer to list their three most commonly used computer applications and most will name *Photoshop*. The same goes for illustrators and web designers. No one can get through an education and career in design without coming across everyone's favourite pixel-pusher – it's powerful enough to let you knock bitmap images around in exactly the way you want, and at a speed that matches. But what about other creative professions?

Sometimes, when you're working all night against a deadline, an involved *Photoshop* project can be lonely work – just you, your computer, and several thousand pixels. But if you take a moment to look around, everyone is using *Photoshop*. Right now, on the other side of the world, a motion graphics designer is creating imagery for a TV ident; an advertising photographer is tweaking the colours from his latest shoot; a graphic designer at a fashion house is drawing a new fabric from pencil sketches. They all take something different from the software, and apply it to their work in a variety of ways, but you can always guarantee they'll turn to *Photoshop* on a daily basis.

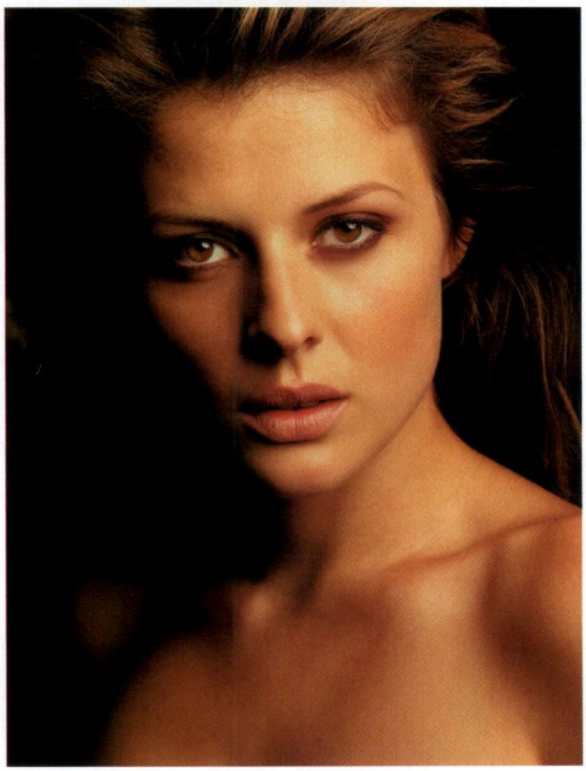
Why it's called Photoshop

Let's start with something obvious. Photographers use *Photoshop*. But with the latest versions of the software enabling professional photographers to have more freedom and breadth of manipulation at a consumer level, its role in the grand scheme of things is changing. "I shoot commercial advertising photography for both ad agencies and corporations," explains US photographer Dana Hursey (**www.hursey.com**). "I work mostly with art directors or marketing directors. Sometimes the client just wants 'the shot', and at other times they rely on me or my staff to composite or retouch imagery. Others come to me with only a vague idea of what they're trying to accomplish, and rely on me to really come up with a creative interpretation of that."

As Dana's role as a photographer changes, so does her workspace. "I have never kept a darkroom, as I fear I'd never leave it. I love printing, but haven't done it in over a decade, as it just eats up too much of my time." And yet Dana, like many other photographers, uses *Photoshop* not only to discover new techniques, but also to simulate wet darkroom printing. "I want to say that I don't know how I got along without *Photoshop*, but in reality I used to do the jobs in much the same way I do them now, only now I can do them faster, less expensively, and frankly a lot 'cleaner'."

Fashion photographer Franco Garzarolli (**www.garzarolli.com**) was introduced to *Photoshop* at an early stage of the software's

> "I used to do the jobs in the same way I do them now, only now I can do them faster, less expensively, and frankly a lot cleaner" **DANA HURSEY, PHOTOGRAPHER**



As a fashion photographer, Franco Garzarolli has found that *Photoshop's* Healing Brush is one of the most important tools for retouching skin.

Dimitri Delacovius regularly works on painting establishing shots for feature films – and, yes, he uses *Photoshop*.

"For storyboarding it is essential, because it's possible to create far more professional and finished-looking designs than if I was to draw designs on paper" **TRISTAN RAMSAY, SCORCH DESIGN**

At Vivienne Westwood, Joe de Campos regularly creates new fabric designs from fashion designers' sketches. Photograph by Ugo Camera.

life; he started using it nine years ago, and hasn't looked back since. "My first experience was about nine years ago," says Franco. "I worked together with a friend who was a graphic artist, and we did a pretty cool collage series of models. This was before you had CD-writers or big hard discs; we delivered the pictures on 40MB cartridges to the lab, and made slides out of the digital data, then we printed them on cibachrome..." Franco, like Dana, soon appreciated that *Photoshop* was to become a part of the photographer's profession – if for no other reason that to stop '*Photoshop* workers' killing his work. "At the time I thought that manipulating pictures was a stand-alone profession," he explains. "But then I realised that most of these workers had no clue about light, perspective and the basics of photography – and most of the time they made a completely different image out of the picture. That's why I started to read books and take my first shy steps in *Photoshop*."

Coming to a screen near you

"My work as a *flame* operator falls into two rough categories: effects and design," says Ally Burnett, who works at Soho post-production studio Red (**www.red.co.uk**), creating motion graphics for the small and big screen. "I work on pretty much everything: commercials, music videos, broadcast design and the occasional feature film." You might well think that his tools would be limited to industry-standard editing and animation software, but he still comes across *Photoshop* on a daily basis. "It's mainly as an intermediary for design jobs," says Ally. "Designers bring in layered *Photoshop* files, we'll open them up here, discuss, then extract the necessary elements. I use a fair bit of *After Effects* – it's obviously lovely that you can import *Photoshop* compositions directly to *AE* with all the layer order and transfer modes intact. Sadly *flame* has no such feature in the version we use."

Tristan Ramsay, of Scorch Design (**www.scorchdesign.com**), works in a similar field, but finds himself using a much broader range of software. *Photoshop* is still an essential cog in the machinery though. "The main thing I use it for is creating the initial design elements that will be used in the animation in *After Effects*," he explains. "This can include background shapes, text, and heavily

treated images. I also use it to cut out people and objects from images to use in 3D fly-through animations. For storyboarding it's essential, because it's possible to create far more professional and finished-looking designs than if I was to draw designs on paper."

In the same way that *Photoshop* work has evolved from chemical darkrooms, *Photoshop* painting has also helped in the creation of feature film effects. "Digital matte painting has replaced the traditional matte painting and on-set 'glass' paintings, used in the past to add backgrounds to a shot," says Dimitri Delacovius, of visual effects studio Double Negative (**www.dneg.com**). "It was while working on the film *Lost in Space* in 1996 that I first used *Photoshop*, as *Photoshop* became – and largely still is – the de-facto digital painting software used for high-resolution images.

"We use *Photoshop* for virtually all our paint requirements: previz sketching, scanning and manipulating reference photos, concept artwork, hi-res texture work to be used in 3D images, frame retouching and, of course, full-blown digital matte painting."

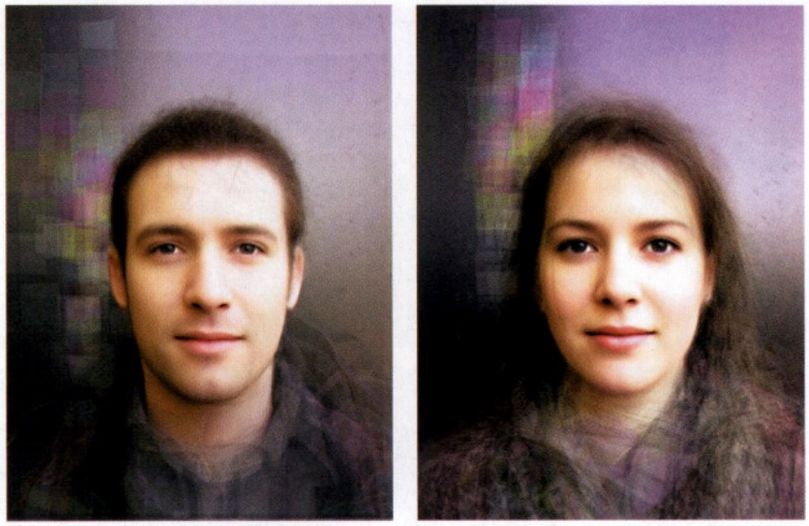
Fine art goes digital

Photoshop is also widely used by artists seeking a tool that enables them to fully exercise their creativity. Artist Rob Sutherland (**www.unstableimages.co.uk**) started as a more traditional painter, but in the last four years has grasped the new opportunities that *Photoshop* offers. "*Photoshop* provides a canvas and a dumping ground for my 'real world' paintings, photographs and objects," says Rob. "It enables an unparalleled flexibility in terms of colour, composition and content. It turns image-making on its head, even allowing what would ordinarily be a finishing detail to become the starting point of an image."

Mike Mike is an artist responsible for an online art project called Face of Tomorrow (**www.faceoftomorrow.com**), which uses images of morphed passport-style photos to show what a country 'looks like' facially. Naturally, *Photoshop* plays its part. "I take photographs on the street, then I download these to the computer and align them and colour correct them," says Mike. "Mostly I adjust Brightness/Contrast in order to get a more realistic look. I then take these files into another morphing program, which accurately morphs one face with the next."

Dedicated followers of Photoshop

So, photographers, motion graphics artists, effects studios and fine artists use *Photoshop*. Fair enough. But would you expect it of fashion designers as well? Possibly not – but at Vivienne Westwood it's an integral part of many processes, as Joe de Campos, one of the fashion house's graphic designers, explains. "*Photoshop* is used in almost every aspect of our work. We might be presented with a small photo of an old collection print that doesn't exist any more, and asked to do an exact artwork of it, which we would do with



Artist Mike Mike doesn't use *Photoshop* extensively, but it always comes in handy on his photographic artworks.

> "Photoshop turns image-making on its head, even allowing what would ordinarily be a finishing detail to become the starting point of an image" ROB SUTHERLAND, ARTIST

How the professionals use Photoshop

Three *Photoshop* users explain which program features they find most useful...

Dana Hursey, advertising photographer

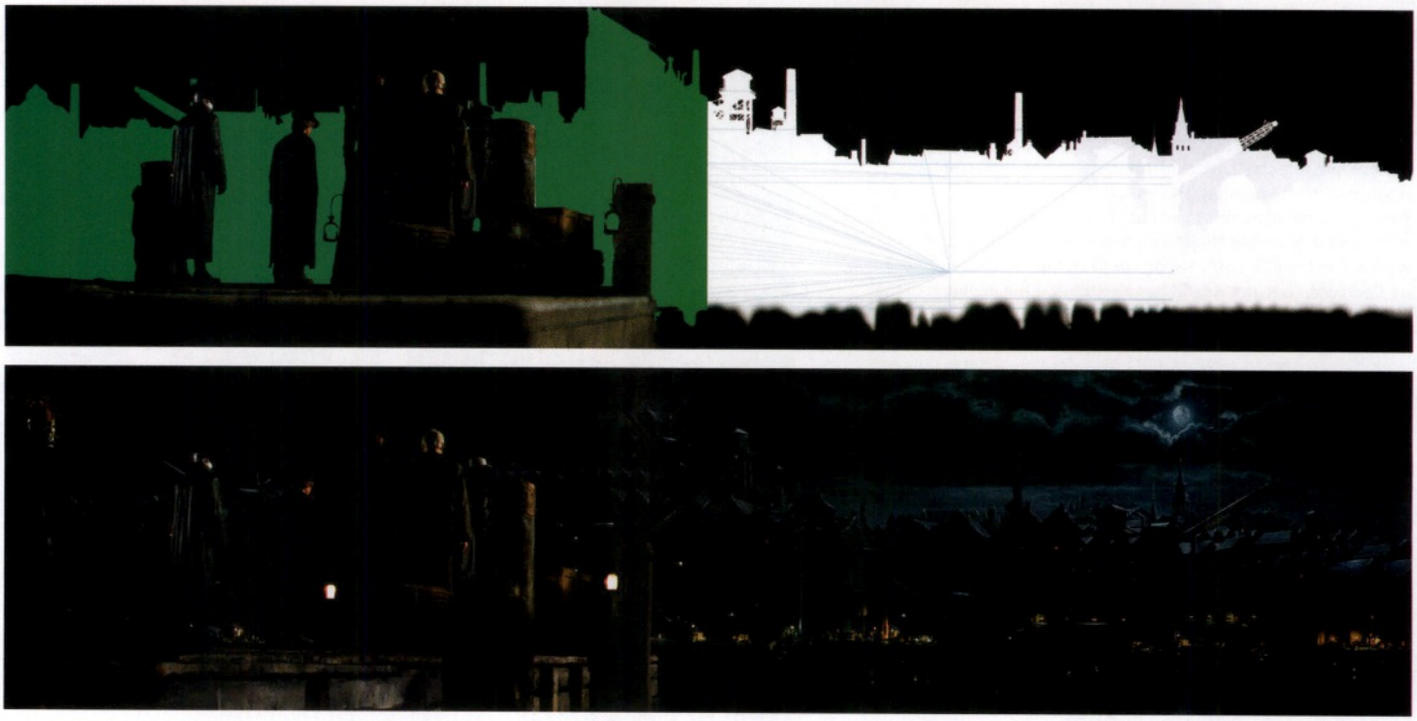
"I would say one of the tricks I use most is to remedy the inherent flatness of digital captures. Duplicate the image layer, and make the top copy a 25–35 per cent opacity with the layer set to Soft Light."

Tristan Ramsay, motion graphics artist

"I use the Pixel Aspect Ratio view option quite often, as it enables you to design elements in *Photoshop* as they will be seen on a TV screen. Without using it, a design created in *Photoshop* can look very different to how you intended it to come out on TV."

Dimitri Delacovius, digital matte painter

"It is the brushes and layers that are the fundamental tools for me, because I simply use *Photoshop* as a painting tool. Image adjustment, editing and transforming, filters and cloning are the digital extras that make your life so much easier."



Above: This shows how Dimitri Delacovius created a set extension and period setting of London docks for the feature film *The League of Extraordinary Gentlemen*.

From photo shoot to design

Franco Garzarolli on shooting for a wraparound CD cover...

The brief: "The idea of the art director was to shoot a scene of a big drug deal."

The shoot: "I set up a fixed camera view, and after every shot we marked on the floor where the guy and the car stood. The main problem was the sun – at the beginning of the shoot the shadow was shorter than at the end."

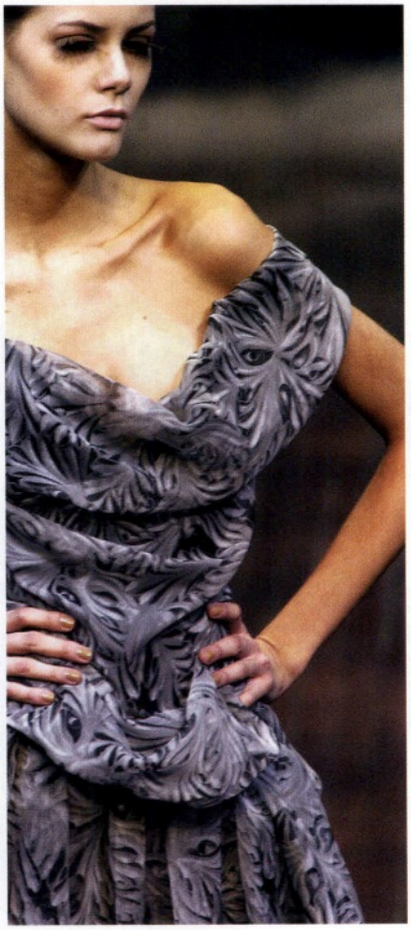
Photoshop: "I chose the right images, and then copied all the pictures to a single PSD file. I had to make the shadows appear the same, and also the reflection of the guy in the cars. After all that, I thought a little helicopter would also be nice – fortunately, I had shot one just three or four months before that shoot. I did the sharpening on a copy of this picture – altogether it took about eight hours."

Photoshop enables photographer Franco Garzarolli to take on the role of a designer, creating montages such as this CD cover design.

From sketches to clothes

How Vivienne Westwood's graphic design team uses *Photoshop*

Joe de Campos, one half of fashion designer Vivienne Westwood's graphic design team, explains how he uses *Photoshop* to bring creative sketches to life on the catwalk: "In our company, most of the creative work is done using *Photoshop*. There are two of us in the graphic department, and our job is to translate the designers' ideas into actual work. One of hundreds of examples of this is the print for the Acanthus fabric. Vivienne thought of it, and her idea was 'created' entirely in *Photoshop*. She and other designers often use *Photoshop* – through us – just to see different colour variations, positioning of things, existing prints and so on. Nearly all our fabric prints are done using *Photoshop*."



Vivienne Westwood's Acanthus fabric started life as a sketch, was designed in *Photoshop*, then ended up on the catwalk. Photograph by Ugo Camera.

tiling and colour separations or, as in most cases, we'd create a new print from scratch.

"The fact that *Photoshop* integrates smoothly with *Illustrator* gives us the best of both worlds. We usually work both programs simultaneously, carrying artwork from *Illustrator* and manipulating it in *Photoshop*. Obviously colour in fashion is very important, and being able to manipulate colours in separate layers on an intricate print makes life a lot easier."

Photoshop is probably the most versatile and widely used graphics software around. People all over the world use it on a daily basis – and not just the amateurs emailing photos of their children to grandma, or the graphic designers preparing artwork for a print job. Creative professionals find it useful in a variety of ways, perhaps only exercising a fraction of the features and tools in their particular field of work, but they all have one thing in common: at some point in their working day, when nothing else will do the job quite as well, they reach for *Photoshop*. ■

"Colour in fashion is very important, and being able to manipulate colours in separate layers on an intricate print makes life a lot easier" **JOE DE CAMPOS**

Illustration and tutorial by Scott Hansen [w] www.iso50.com

Mixing design elements

Scott Hansen, Computer Arts regular and the brains behind design studio ISO50, reveals how to seamlessly integrate pixel and vector elements, using Photoshop and a scanner to recreate his instantly recognisable style

With current versions of *Photoshop* (version 6 and higher) it's easier than ever to create and manipulate vector shapes without the use of a dedicated vector application such as *Illustrator* or *Freehand*. By using *Photoshop* from start to finish, it's possible to employ the program's vector shape layer features, and harness its powerful pixel manipulation capabilities, to seamlessly integrate design elements.

Given the unique nature of both, it's helpful to find a common ground when combining photographic and vector elements. But to achieve this, you'll need to make your photographic elements appear as vector-like as possible, and vice-versa for vector (shape) elements.

This tutorial will show you how take a photograph and extract its key elements, filling it with a solid colour so that it closely resembles a vector layer. We'll then show you how best to use real-world textures and photographic elements to give vector shapes a realistic, distressed look.

Throughout this step-by-step guide, you'll learn how to choose and blend colours to give life to your vector shapes while using *Photoshop's* blending modes and gradient masking feature to smoothly combine your vector and pixel elements. By using these techniques you'll be able to blend in and out of vector and pixel layers without any stark contrasts, resulting in a more detailed final illustration that lies somewhere between the world of vector and pixel. Use this 'best of both worlds' approach, and you'll soon achieve a higher level of creativity and control over your illustration, lending it a more intricate and engaging quality.

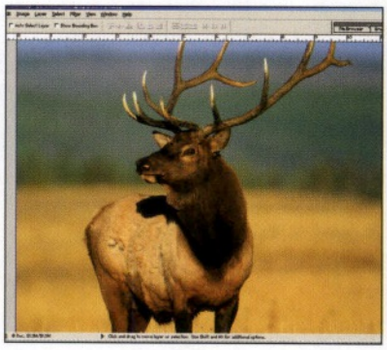
All the files to complete this tutorial are in DiscContent\Tutorials\Chapter 1\Tutorials\Mix Design Elements

Combine pixel and vector elements

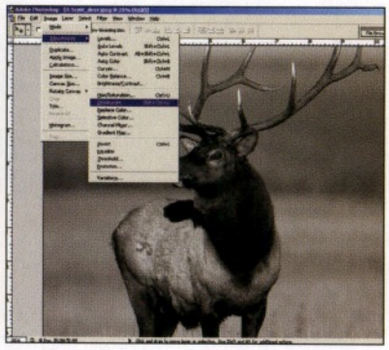
Extract an image from its background, and use Photoshop's vector tools to add new detail

Colour variation

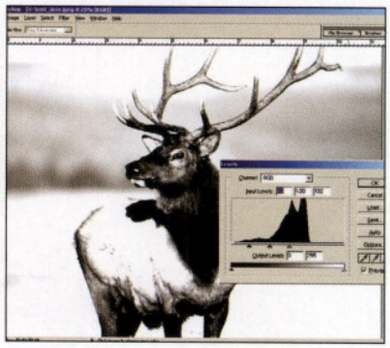
There are no solid colours in the real world. The sky doesn't just look blue; it's a complex gradient of many shades. Try using gradients and blending modes when applying colour to your layers. By fading colours in and out, and darkening or lightening different parts of an element, you can achieve a more realistic, varied appearance.



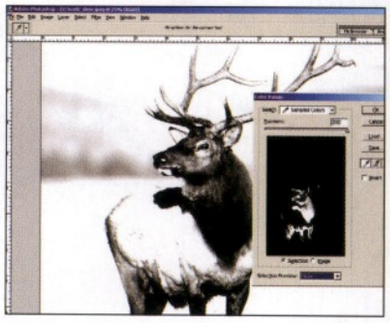
1 First sketch out some illustration ideas by hand; this will help with basic brainstorming, and will enable you to develop a well-formed concept. Once you've decided on a concept, it's best to work on the main element in *Photoshop*. In this case, I chose a stock photograph of a stag for the central image.



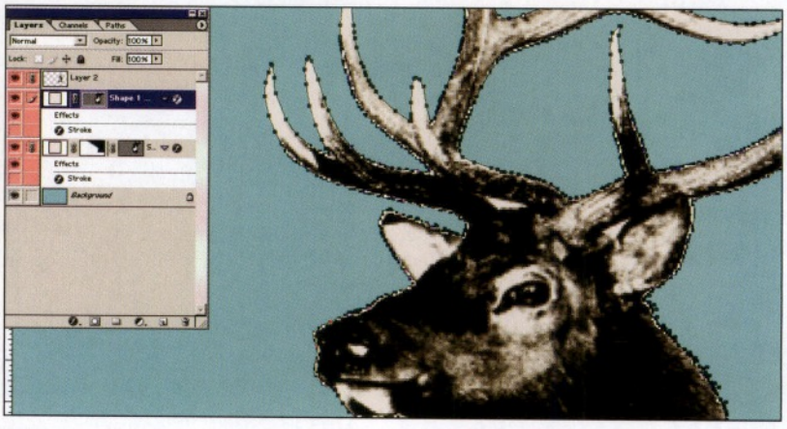
2 It's best to extract only the basic image of the stag, so we'll select just the darkest areas of the figure, and convert them to a layer with transparent whites. Start by choosing Image > Adjustments > Desaturate to remove all colour from the photograph.



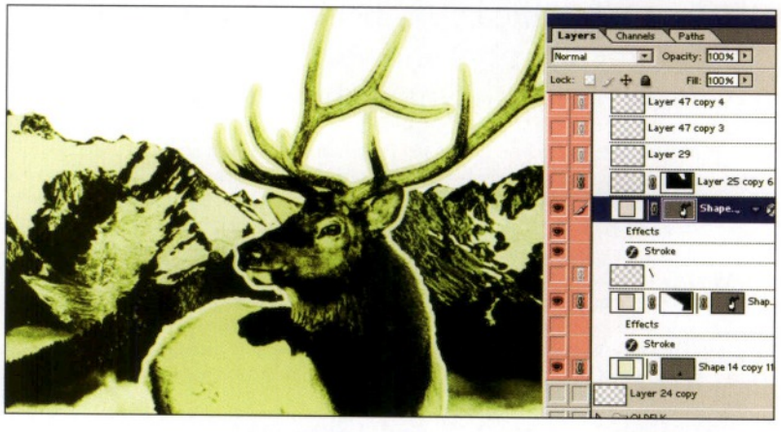
3 Next, use Image > Adjustments > Levels to boost the contrast. Drag both the dark arrow and the clear arrow towards the centre of the histogram, until most of the photo's grey shades are gone; this should leave an image that's mostly black and white.



4 Go to Select > Color Range, and sample the black with the Eyedropper Tool. Setting the Fuzziness to 200 will help to keep your edges smooth. Once the black is selected, create a new layer, and fill it with a dark colour.

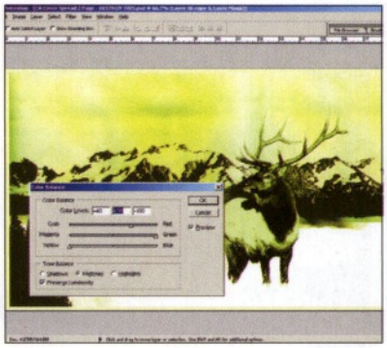


5 Now that you've isolated the stag image, create a shape layer to form a backdrop; this way you can lay the stag over other elements without them showing through. Use the Pen Tool to trace a shape layer around the stag, and fill it with a light colour.

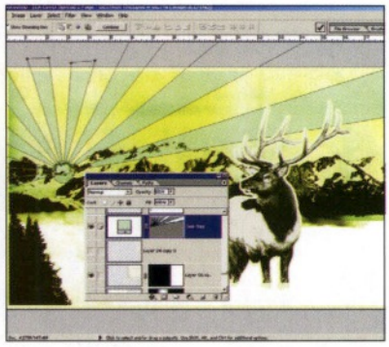


6 Using the same process, choose a background. I used a photo of a mountain range, and pulled out the dark areas to use as the backdrop. I then added a stroke to the shape layer behind the stag, so that it stood out against the mountains.

7 Now add some texture to the background. A good way to add organic texture is to scan in some paper. Try using old paper samples (one sample has been included on the cover DVD), or heavily textured watercolour paper. Whatever you use, ensure it has a good, rough texture.



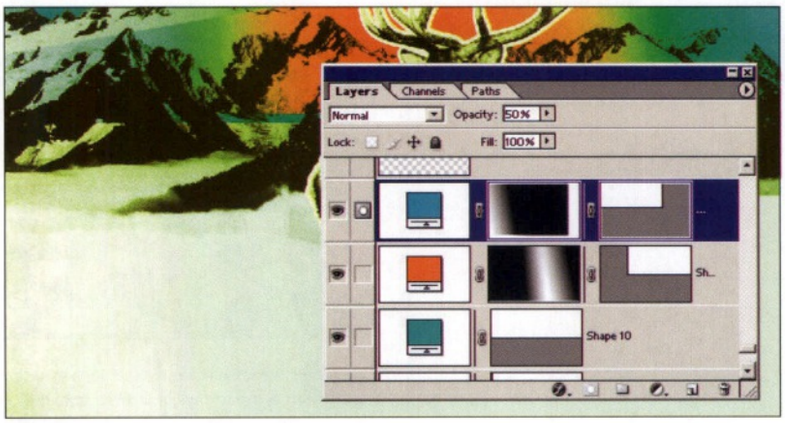
8 Lay your paper texture behind the mountains, and set its blending mode to Multiply. Then use Image > Adjust > Color Balance to adjust the colour of the paper until it becomes more vibrant.



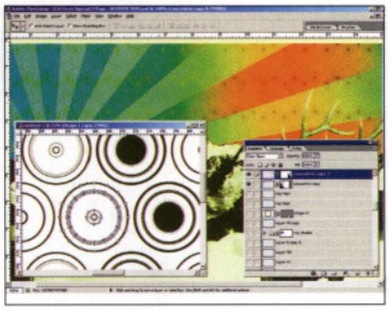
9 You can now start to add some vector elements. For this image, I started out by creating a sun behind the mountains using the Ellipse shape tool, and added rays using the Pen Tool. It's important to adjust the opacity of the shape layer to make sure that it blends with the background.

Mind your pictures

When taking pictures for use in an illustration such as this, select the angle you take your picture from carefully. Try to get a high-contrast shot, in which your subject stands out against a simple background. If you're capturing a tree, for instance, try to shoot it so that only the sky is seen behind it; this will make the image much easier to extract in *Photoshop*.



10 For the sky, create a few shape layers using different colour fills. Add layer masks, and use the Gradient Tool to fade the shapes together. Try experimenting with different Opacity settings and blending modes until you achieve the desired effect.



11 Repeating patterns are a good way to give open spaces a more complex feel. For the sky, create a pattern of concentric circles on a new layer using the Ellipse shape tool, and set the layer's blending mode to Colour Burn, so that the textures behind it show through.

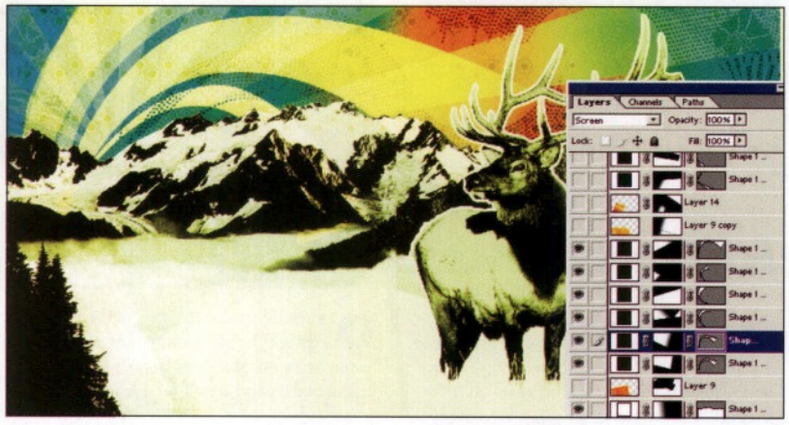
12 Now you can start to add some detail to your layout. Try creating different geometric shapes and designs, and vary the blending modes and opacity of the various shapes to give the composition a more detailed appearance.

... Continued

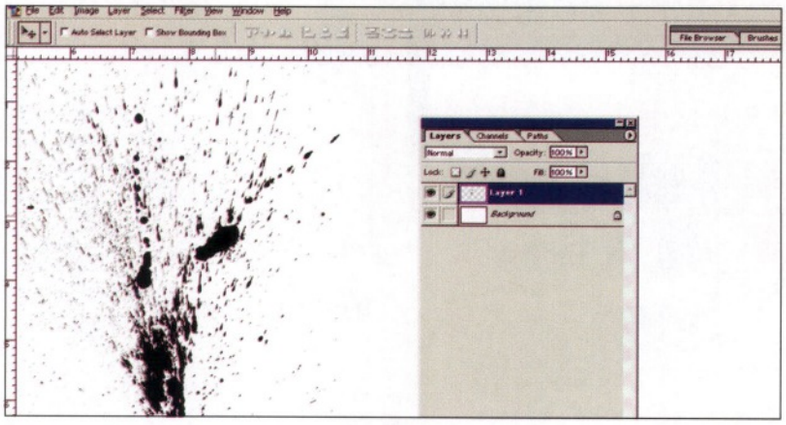
Sweat the details

Build in as many details as your patience will allow, as complexity will add depth to your image. Small details here and there might not stand out on their own, but overall they will engage the viewer. But don't overdo it; you need to be able to judge when enough is enough. Juxtaposing minimal and complex spaces in a design is often very effective.

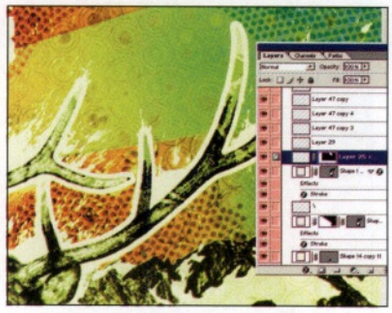
13 Use the Pen Tool again to create the large arc shapes that sweep from left to right. By clicking and dragging, you can easily create curved lines. To adjust the curves, use the Direct Selection Tool to drag the path handles.



14 You can now duplicate your shape, and use the Transform command to arrange the copies in different ways, varying their opacity values. Since the original fill colour was a dark brown, use the Screen blending mode to lighten the colour and bring the elements behind the shape through.



15 At this point you'll need to start going back and detailing the edges of the vector shapes, so that they don't look quite so plain. A good way to achieve an organic feel is to use paint – I splattered India ink and scanned it in, and this file has been included on the cover DVD.



16 Using the same process you used to extract the stag, extract the black colour from the ink scan. Now you can fill the layer with the same colour as the stag outline. Try cutting out pieces of the ink splatter, and arranging them around the stag's outline.

17 If you want to create a more complex appearance, try re-using shapes you've already created. Take the shapes you used for the sky background, and place them over solid colour areas. By using different blending modes for each, you can create complex colour interactions between the elements.

GETTING STARTED WITH

Easy colour management

Previous page: The colour as originally interpreted by the photographer, after successful profiling and soft proofing.

Above left: This image may have been output incorrectly. Perhaps soft-proofing changes were made without profiling first. You can clearly see a magenta cast.

Above right: This image suggests another incorrect output. This may be due to poor monitor calibration and profiling or inaccurate press profiles. Note the bluey cast.

The story behind colour management goes something like this: every imaging device, be it camera, scanner, monitor or printer, records and reproduces colour in its own unique way, irrespective of the model or manufacturer.

Visit any high-street electrical retailer and look at how colour varies across several display TVs. Each display will be receiving identical RGB number values, but the way each one reproduces these values will differ from unit to unit, and sometimes dramatically. This kind of random colour reproduction isn't much of a problem for the average telly addict, but for graphics professionals it's simply unacceptable.

The language of colour

The solution is a standardised language that maps the way devices reproduce RGB values, or in the case of print output, CMYK values, so that systems can be built to compensate. The groundwork for this language was laid as early as 1931 by a body of scientists specialising in colour known as the Commission Internationale de l'Eclairage (CIE).

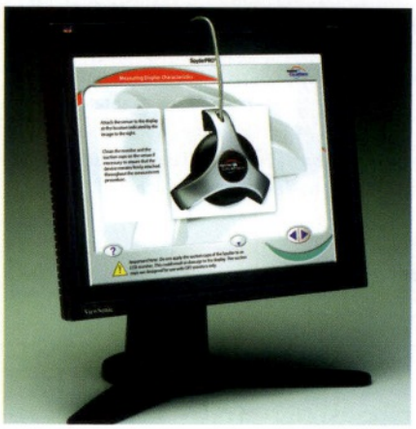
These clever folk produced a mathematical model to represent the sensation of colour that people with normal vision would experience when fed a precise stimulus under precise viewing conditions. Then all that was needed was a labelling practice to 'profile' exactly how particular devices represented 'device-dependent' colour information (numbers in either the RGB or CMYK format) in 'device-independent' (CIE) terms.
Step forward the International Colour Consortium (ICC), established in 1993 by eight industry vendors.

The resulting ICC profile does nothing to alter the actual RGB or CMYK values, but it does give these values some meaning by measuring them against the CIE yardstick (ICC actually uses two CIE models, CIE XYZ and CIE LAB, for different profile types). It says, in effect, that this Canon EOS 1DS, this LaCie monitor or this Epson 1290 printer produces this specific colour (defined in XYZ or LAB) when given these RGB or CMYK numbers. If all televisions were accurately profiled, and equipped with the necessaries to alter their picture accordingly, you'd be seeing 30 near-identical versions of Shrek 2 in Dixons.

The WYSIWYG myth

In graphics terms this means that as long as images come tagged with their relevant profile, you can import them into any colour-managed application, view them accurately on-screen, do what you want to them, pass them on to someone else, or output them in whichever form you choose, confident that they'll reappear looking as close as physically possible to how they looked when you last saw them.

Calibrating your monitor

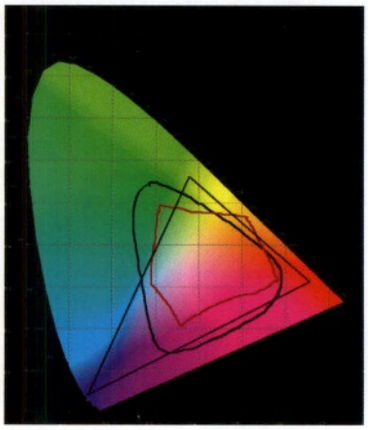


If you want to be sure that the colours you see on your screen are the same as those that will be output, you need to calibrate your monitor

Failing to calibrate and profile your monitor – a key element in your colour-managed workflow – is simply not an option. While a number of software calibrating solutions are available, including the infamous Adobe Gamma, these are based purely on visual correction, and are sometimes more damaging than helpful. Likewise, the generic profiles that come packaged with monitors are notoriously inaccurate, thanks to extreme variations between units and the fact that colour reproduction will vary over time.

The answer lies with a software/hardware calibrating and profiling solution, the most popular of which rely on a nifty device called a colorimeter. This attaches to the front of your screen (see left), and takes readings from software-generated shades of red, green, and blue, as well as measuring the white point and black point of your screen.

There are three popular calibration packages available in the UK: the ColorVision Spyder2, the Gretag Macbeth Eye-One Display 2 and the MonacoOPTIX XR. You can pick up the Spyder2 from **www.mwords.co.uk** for £150 and the Eye-One Display and OPTIX XR from **http://shop.colourconfidence.com** for £210 and £175, respectively.



This straight-edge triangle represents a typical monitor colour gamut, the round-edge triangle a typical inkjet gamut, and the smaller shapes inside the gamut ranges of a typical CMYK printing press.

The 'as physically possible' bit can't be stressed enough, however – the WYSIWYG idea of colour management is a dangerous myth that needs exploding for a number of reasons. Profiling equipment can itself produce slightly varying results; the CIE model of colour isn't perfect; the perception of colour can vary slightly between individuals; viewing conditions are rarely identical: and, most importantly, devices themselves have limits as to the colours they can reproduce. This doesn't mean that you can't get close, and getting close is an entirely favourable alternative to no colour management at all, but these factors are worth remembering.

Colour gamut

The issue of device limitation is most important to designers, because it's integral to the colour management loop. Every device has a fixed range of colour that it can reproduce, as dictated by the laws of physics. Your monitor can't reproduce a more saturated green than the green produced by its green phosphor, and your printer can't produce a yellow more saturated than its yellow ink.

The range of colours that a device can reproduce is called its colour gamut, information about which is included in its profile. Input devices such as digital cameras, scanners and monitor displays generally have a much wider colour gamut than output devices such as printers; so many colours visible on a monitor simply can't be reproduced in print. But while a printer may have a smaller gamut than an input and display device, its gamut may still include colours in the visible spectrum that can't be captured by a camera or scanner, and can't be reproduced on-screen, as illustrated clearly by the diagram on the left.

A colour management system isn't just about shifting RBG/CMYK values according to CIE-based profiles. It also involves compensating for values that can't

Desktop A4 and A3 printers tend to vary from unit to unit, so using the generic profiles isn't a good idea. Unless you want to invest in a large-format Pro printer, be sure to have yours profiled.

"Profiling equipment can produce slightly varying results... the devices themselves have limits as to the colours they can reproduce"

Top ten tips

1 Internet browsers aren't colour-managed. To prepare an image for the web, convert to sRGB, then soft-proof using the monitor RGB profile.

2 Scanners and digital cameras are difficult to profile, and results vary, so concentrate on your monitor instead.

3 If you encounter a document without an embedded profile, find out where the file originated and assign the relevant profile, or try assigning colour space profiles and checking the results.

4 Don't attempt CMYK conversion for magazine output unless you know what you're doing. Supply repro houses with RGB files and inkjet prints for guidance, and let them do the work.

5 If you're worried about how a repro house will handle your RGB images, ensure damage limitation by converting your file to a narrow gamut space such as sRGB.

6 Change your monitor every few years to stop the fall in brightness affecting detail. Use a greyscale checker to see if yours is a goner.

7 Don't use cheap third-party inks! They often have inconsistencies, and may damage your printer.

8 Profile and calibrate at least fortnightly for CRT screens, and slightly less frequently for LCD screens. Check daily for colour critical work.

9 Don't view your prints in direct sunlight, tungsten light or fluorescent light. Use filtered daylight, or a daylight-balanced light source such as Solux (**www.outsidein.co.uk**).

10 CRTs have the edge for colour-critical work, unless you're prepared to pay big money. But it's well worth saving up for a decent LCD.

Designer tips

The experts offer their advice on colour management...

"Properly built printer profiles make all the difference. With a good set of well-implemented profiles (press and printer) you can simulate press offset effortlessly, even on a £450 printer."

Thomas Holm, imaging consultant
www.pixl.dk

"Educate your clients and sales team about the business advantages of colour management, and how much it improves quality and consistency."

Keith Cooper, Digital imaging consultant
www.northlight-images.co.uk

"Advise your clients that unless their monitor is calibrated and profiled, they won't be seeing colours accurately. If they live locally, why not pop around with your colorimeter!"

John Davison, web designer
www.blunt74.com

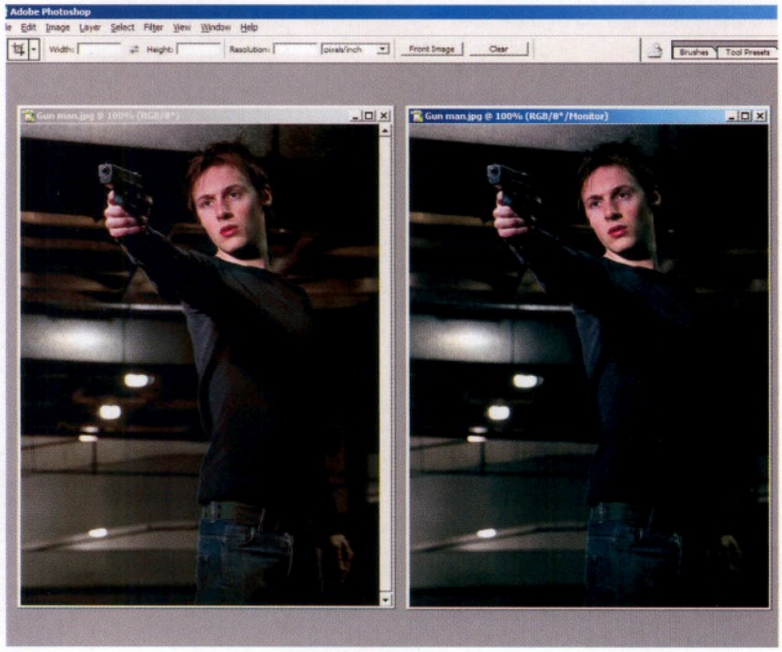
be reproduced. We refer to the colours in the 'source space' that can't be reproduced in the 'destination space' as 'out-of-gamut' colours. Each colour management system contains what we call a Colour Management Module (CMM), which is the software 'engine' responsible for profile conversion and for replacing out-of gamut colours with colours that are reproducible.

To complicate matters, ICC profiles include four methods for handling out-of-gamut colours, called rendering intents: perceptual, saturation, relative colormetric, and absolute colormetric. Don't worry too much about these at this stage, as the differences are fairly subtle – the default is generally set as perceptual, and can be left as such for most applications.

> "Every time you display an image in a colour-managed app, there's a conversion going on from your document's space to your monitor"

Soft-proofing

Most colour-managed imaging applications will give you the chance to 'soft-proof' the way things might look following this profile conversion. So if you have an image captured in the fairly wide space offered by a digital camera or scanner, and you want to print this out to the much smaller space of an inkjet, you can view an on-screen approximation of how things will look in the final print. We say approximation because, of course, the conversion might involve colours that your inkjet can reproduce, but not your monitor, but it still generally serves as a decent guide.


Adobe Photoshop
File Edit Image Layer Select Filter View Window Help
Width: Height: Resolution: pixels/inch Front Image Clear
Brushes Tool Presets
Gun man.jpg @ 100% (RGB/8*)
Gun man.jpg @ 100% (RGB/8*/Monitor)

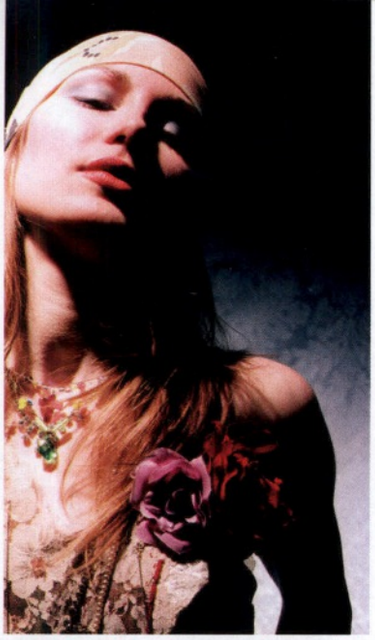
Soft-proofing options, such as that found in *Photoshop*, enable you to view a preview simulation of how an image would look if reproduced in a different profile space.

If the results don't appear quite as you'd expect, you can use all the imaging controls you have available to bring the image into line – curves, colour balance, levels, hue/saturation and so on – in, say, *Photoshop*.

Although you still can't use colours that aren't available to your inkjet, you'll more than likely find that by altering the information in the original space you can access colours in your inkjet space that are far more satisfactory. It may be simply that your inkjet can't reproduce so much detail in the darkest shadows – a slight lift in curves will solve the problem – or that more complex colour changes will be necessary. Either way, soft-proofing is one of the most important luxuries that successful colour management has to offer.

More about profiles

Clearly, a profile by itself does nothing. It's the colour-management system, and its chosen colour-management module, that



makes things happen, by converting colours from one device to another according to said profiles. No changes are ever made to the actual profile during these conversions; the profile remains intact and embedded in the file itself. No, the conversion happens in a kind of temporary mid-air place (often called the Profile Connection Space) that disappears once its work is done – after you've printed, written to transparency or whatever.

It is possible to choose a permanent conversion, however – *Photoshop's* Convert to Profile command is one method, and some graphics professionals prefer to work this way, converting images to their output space as soon as they're opened. The main advantage of this method is that you won't ever be able to use out-of-gamut colours while you work, as long as your output device stays the same. The main disadvantage is that you'll have thrown away large amounts of colour in downsizing to an output space that can never be retrieved – so if you subsequently choose another output space with a slightly wider colour gamut, you won't be able to use its full range.

> "Most of us are better off leaving things as they are, although there's a lot to be said for converting to a wide-gamut intermediate space"

Most of us are better off leaving things as they are, although there's a lot to be said for converting to a wide-gamut intermediate space such as Adobe RGB (1998). Input device colour spaces are rarely grey-balanced, and hardly ever perceptually uniform, so if you're planning to make many tonal changes, the likes of Adobe RGB offers a sensible alternative.

It's also worth noting that every time you display an image in a colour-managed application, there's a conversion going on from your document's space to your monitor's space. If this conversion didn't happen, your colour would be displayed inaccurately. From a workflow standpoint, this happens automatically, and is not part of any chosen source-to-destination conversion. Colour-managed applications apply the display conversion on the fly to the data that is sent to the video card; the data being pushed through the workflow is never actually touched.

In practice

The whole colour management field may sound complicated, but for the most part things are handled automatically in any colour-managed application. As long as you preserve embedded profiles (or change to an intermediate working space) in your application settings and ensure that your display is calibrated and profiled, and your printer profiled, you can get on with the job of opening images, making colour changes, soft-proofing and printing without too much thought for the wider concepts.

Colour-managed applications include *Adobe Photoshop*, *Illustrator* and *InDesign*, *Macromedia Freehand*, *CorelDraw* and *QuarkXPress*. The only thing you must make sure to do when outputting to print is to ensure that the relevant paper profile is selected in the print space section of the printer dialog (not Printer Colour Management) and that your printer driver's own colour management system is turned off (you'll usually find this option somewhere in an advanced section in printer preferences), so that it doesn't apply a second profile conversion. If you're not printing, and merely passing images between applications or systems, there's not too much for you to worry about. ■

Printer profiling

Like monitors, printers often come packaged with their own generic or 'canned' profiles. While it's generally accepted that these are better than generic monitor profiles, they're still a little hit and miss. Professional large-format printers have fewer discrepancies, so if you're the lucky owner of an Epson 4000, 7600 or 9600, you'll doubtless be okay. For the rest of us, an alternative profiling solution may be the best bet. You can either do the job yourself with a device called a Spectrophotometer, or you can have a lab do it for you – Mwords (**www.mwords.co.uk**) is one of the cheapest. The best-known spectrometer/software bundle is probably the Gretag Macbeth Eye-One Photo, which retails at around £900.

Further reading

Title **Real World Color Management**

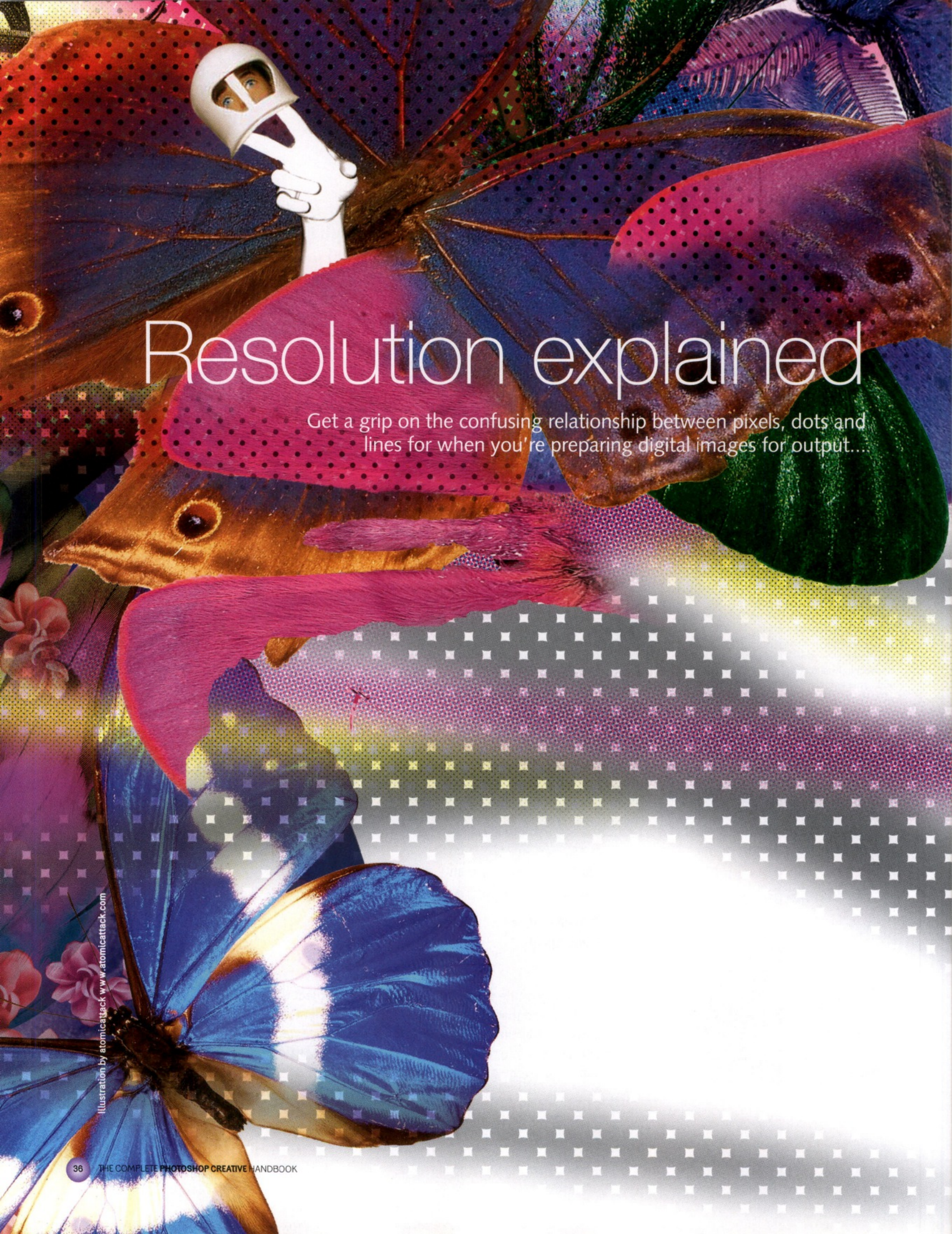
Authors **B. Fraser, F. Bunting & C. Murphy**

Publisher **Peachpit Press**

ISBN **0-32126-722-2**

Price **£37.99**

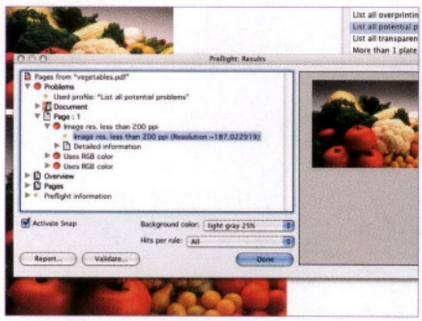
There's really only one title worth considering on the subject of colour calibration, and that's Real World Color Management, by Fraser, Bunting and Murphy – the definitive colour management bible. It's a bit of a doorstop, but a reasonably light read considering the tricky subject matter.



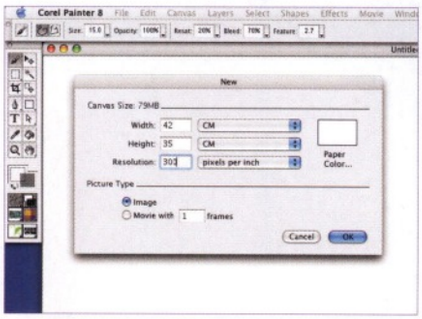
Resolution explained

Get a grip on the confusing relationship between pixels, dots and lines for when you're preparing digital images for output...

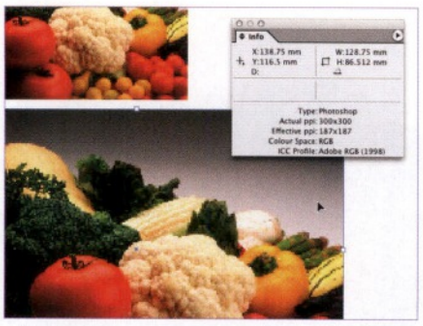
Illustration by atomicattack www.atomicattack.com



Adobe Acrobat 6 Professional's built-in preflighter warns you if any images in your PDFs are below the required resolution.



When creating new artwork from scratch, enter the intended output resolution, and the on-the-page print size.



Adobe *InDesign CS* users can check on the effective resolution of scaled images by using the Info palette.

How can an image have two resolutions at the same time? Why do images captured at the same resolution sometimes import at different sizes into a page layout? Why is my bureau telling me my carefully prepared images are now at the wrong resolution? This article is dedicated to anyone who has asked these questions, or otherwise struggled with the thorny issue of image resolution.

Pixels vs dots

To put yourself on the right track, you'll find it helpful to distinguish between pixels and dots. Yes, they're both types of dot, but think of pixels as the units which comprise an image in its electronic form — as a file on your computer, displayed on-screen, captured by a scanner or camera, taken from a CD-ROM, and so on. Unlike pixels, which are electronic and digital, dots are things that you print.

The trick, then, is to understand the link between the pixels of a digital image and the dots of the same image when it's printed. The resolution of one does not necessarily equate to the other, which is where the confusion begins. When it's explained that the determining factor is a third resolution, that of 'halftone screen', it becomes a bit of a conundrum. Let's try to resolve it...

Three resolutions

Open an image in *Photoshop*, and set the zoom level to 100 per cent. At this point, every pixel in the digital image occupies a pixel on your computer display. Regardless of the size and resolution of the display, one pixel equals one pixel. Now reduce the Zoom level to 50 per cent. *Photoshop* is no longer showing the original pixels of the image but a 'downsampling' preview based on them. In other words, your display is now reproducing the image using fewer pixels.

It works in the same way when you go to print: your original image has its own resolution in pixels, but this will never match the dot resolution of the printer.

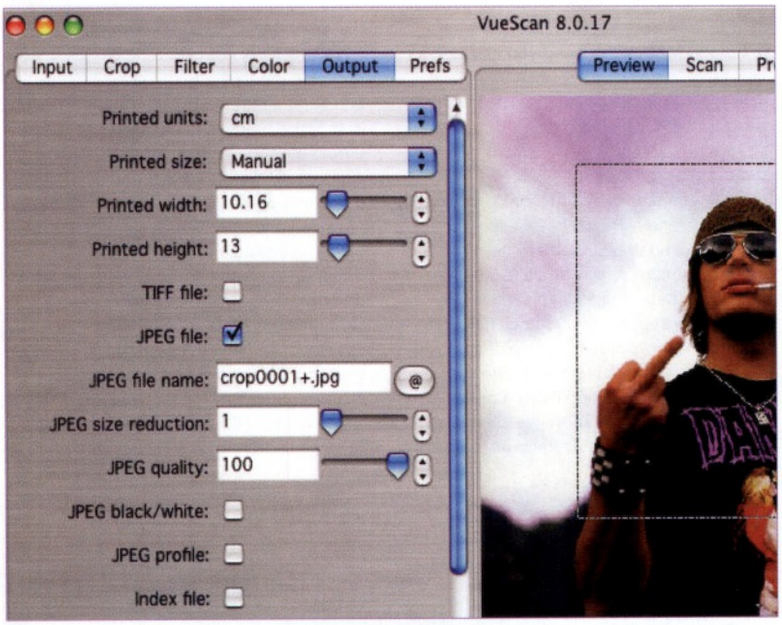
The key reason for this mismatch is that computers and printers reproduce images in different ways. All pixels in an image are the same size as each other, but they have variable digital colour and tone values. Ink, on the other hand, only has one colour and tonal value, so a printer must trick the eye into thinking that it can see differences by using dots of varying sizes. However, the dots produced by most printers are fixed at a regular size, just like pixels are, so what a printer does is mimic the effect of a lower resolution, by grouping its dots into clumps which appear to the naked eye as larger dots.

The arrangement of these different-sized clumps of larger, 'fake' dots is known as a halftone screen; it's effectively a third resolution. When you prepare your images for printing, it's this halftone screen resolution that you need to deal with. Of course, the higher the dot resolution of a printer, the higher a halftone screen resolution that it can produce, so the issues are interrelated, but all that matters in practical terms is the latter.

Lines and screens

For an image to print at optimum quality, its resolution value (measured in pixels per inch, or ppi) should be at least double the halftone screen value (measured in lines per inch or lpi) at the physical size at which the image will be printed. For a demonstration of how this works, see the panel 'Which resolution to use?' on page 41. When the original image resolution is at least double the screen value, it means that the software in your output device has at least four pixels with which it can calculate each halftone dot; this ensures that a decent level of colour fidelity and clarity of detail will be maintained.

Halftone dots in a printed image are much bigger and coarser than the pixels of the original image.



When scanning an image, you don't need to worry about resolution – just enter the required destination print size and output quality (or the halftone screen itself).

Don't be distracted by the term 'line' when we're referring to halftone screens. In the pioneering days of halftone print reproduction, a continuous-tone image such as a photograph would be covered with a transparent film inlaid with a mesh of ultra-fine lines and then re-photographed. The result was the same – big, variably sized dots – but the legacy jargon 'line' has stuck. It has the advantage of distinguishing halftone screens both from digital pixels and a printer's dot resolution.

Scanning images

Preparing images at the right resolution is easy when you scan them in. Having selected an area of an image that you want to scan, you should enter the size at which you intend to print the image, and the appropriate scan resolution for the output device's halftone screen. Professional graphics scanning software makes this easier, by enabling you to enter the output size and halftone screen directly, and then calculating the necessary scan resolution for you automatically.

The one potential problem to look out for here is that you may subsequently decide to output that image at a larger size. For example, you might place it on a page layout and then scale up the picture box. However as the picture box grows, the original pixels of the digital image are forced to spread over a larger physical area; in other words, scaling an image

Jargon buster

Terms for understanding resolution...

Downsampling
Reducing resolution by replacing groups of adjacent pixels with one pixel, the colour of which is calculated from those of the pixels it replaces.

Dpi
Dots per inch. Literally the maximum number of dots that can be printed in a line one-inch long.

Halftone
A printed image composed of a mesh of evenly spaced dots whose variable size creates the illusion of changes in tone and colour to the naked eye.

Halftone screen
The mesh of dots comprising a halftone image.

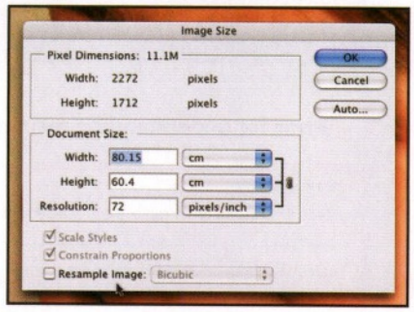
Lpi
Lines per inch. The traditional resolution measurement of a halftone screen (= the density of the mesh).

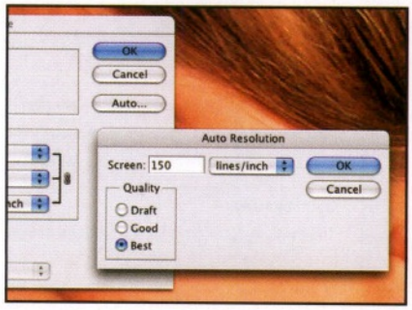
Pixel
A contraction of the term 'picture element', a single coloured dot in a digital image.

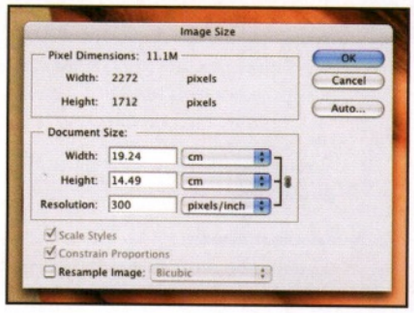
Ppi
Pixels per inch. The equivalent of dpi for digital (not printed) images.

Resolution-dependent
Composed of a specific number of pixels (for example, a bitmap image).

Resolution-independent
Composed of mathematically plotted shapes (for example, a vector graphic).







Here's an easy way to sort out resolution in *Photoshop*. Go to Image > Image Size. Untick Resample Image and click on the Auto button. Enter your output halftone screen and click on Best. When you click OK, the necessary resolution and image size is calculated for you.

changes its effective resolution. Reducing an image's size is fine, but if you intend increasing it, you ought to scan the image afresh, entering the new output size with the same halftone screen again.

Fixed resolution images

Images obtained from digital cameras and picture libraries already have a specific resolution, and this puts a hard ceiling on the maximum size at which you can reproduce these images in print without sacrificing visual quality. You can calculate the maximum reproduction size of an image based on its pixel resolution and intended halftone screen using a rather complex formula, but we suggest you use *Photoshop's* Image Size command to do all the calculations for you instead. To use this feature, simply untick the Resample Image option in the Image Size dialog window, and enter a minimum 'ppi' resolution value (this figure being at least double your output halftone screen, remember). *Photoshop* then shows you the maximum reproduction size for that image.

You should now have a much better idea of how to evaluate image resolution for printing; it's all about identifying the output device's halftone screen. Print bureaus reckon that low image resolution caused by excessive rescaling on page layouts is now the second-biggest prepress error after missing fonts, but now that you understand what's causing the problem, at least you'll be in a position to do something about it. ■

Part of the resolution problem is that images tend to look fine on screen, but, when you print them, all the resolution deficiencies suddenly become obvious.

Which resolution to use?

How to get an image to print at optimum quality...

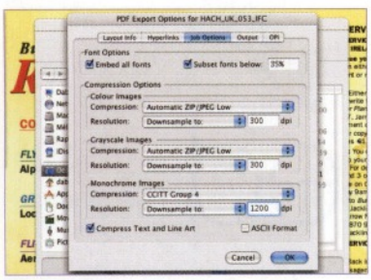
Use this basic formula to calculate the minimum resolution required for images destined for printing:

(halftone screen x 2) x scale = image resolution. Or in other words: (lpi x 2) x % = dpi

As you can see from this formula, it's just a matter of doubling the output device's halftone screen, tempered by whether the image is enlarged or reduced from its original size. But different output devices support different halftone screens. So assuming no rescaling takes place:

Output device	Device resolution	Typical halftone screen for that device	Minimum resolution required for image
Laser printer	300 dpi	60 lpi	120 ppi
	600 dpi	85 lpi	170 ppi
Imagesetter	1200 dpi	120 lpi	240 ppi
	2400 dpi	150 lpi	300 ppi

Inkjet and dye-sublimation printers do not print in halftone dots. For desktop inkjet printers, you should assume a halftone screen of 100 lpi (so the image needs to be 200 dpi). For high-quality colour proofers, assume a halftone screen of 150 lpi (so the image needs to be 300 dpi).



Make sure your downsampling options when exporting to PDF format don't drop the resolution below the minimum requirement.

Illustration by atomicattack www.atomicattack.com

Channels explained

In Photoshop colour information is handled by channels, and the Channels palette offers a wealth of creative options if you know where to look...

When an image is opened in *Photoshop* the colour elements of that image are split into separate channels. The number of colour channels depends on the colour mode of the image. If, for example, an image is in CMYK mode, the Channels palette will contain five channels by default; you'll see a composite channel at the top of the palette followed by one channel each for cyan, magenta, yellow and black (K). The channels can be thought of as traditional printing plates containing the process colours that will produce a full-colour image when printed in succession. Channels are, by default, represented by greyscale previews of each plate in the Channels palette.

For the average *Photoshop* user this will be about as far as their knowledge extends, but the Channels palette is far more than just a preview interface. Using the palette's menu options you can also create extra channels, called alpha channels, for masks and spot colours. These additional channels don't affect the actual colour content of an image directly; they only contain a mask that can be turned into a selection for image-editing purposes.

"You can have up to 56 channels in a document, so it's no problem to create several duplicate channels for experimenting with filters"

Masks and selections

When you're using the Quick Mask mode to paint over a selected area of an image, a temporary channel will appear in the Channels palette. If you then click on the Edit in Standard Mode button, the extra channel disappears, and the mask is turned into a selection. You can create a permanent alpha channel from the mask by making it a selection and going to Select > Save Selection. A dialog will appear in which you can name the new channel and choose a destination for it. The Save Selection dialog box also contains a set of options called Operations, which enable you to add or subtract new selections from a mask; these options become active when an alpha channel is selected from the Channel pop-up menu in the Save Selection dialog box.

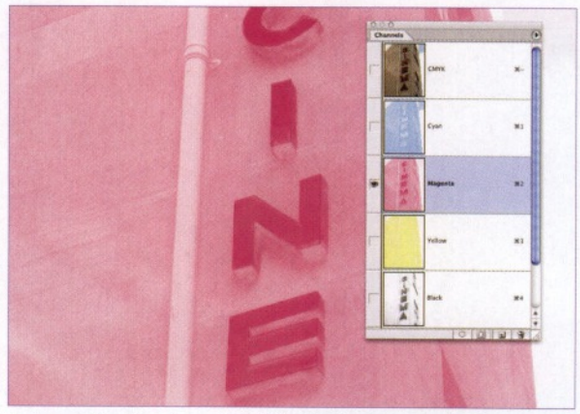
Colour channels in colour

Display your channels in their appropriate hues

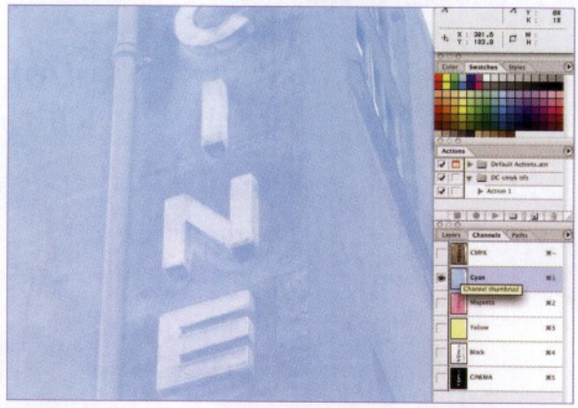
By default channels are shown in greyscale, but there's an option in Preferences to display the colour channels in colour. This option can be of great benefit not only to those who may not be too clued up about colour values when it comes to the printed image, but also to more advanced users editing channels directly. If the channels are displayed in the colours they represent, then it's easier to visualise how much ink is going to print from each plate.

To activate this option go to Photoshop > Preferences > Display & Cursors, and click on the 'Color Channels in Color' box. Then open the Channels palette, and you'll see that each channel now appears in its own colour. If your image is in RGB mode, each channel will also contain black mixed in with the colour, creating a duotone effect.

Colour percentages can be checked for individual channels using the Eyedropper Tool; the only problem is that the Info palette shows a percentage next to the K value, instead of the selected channel. Note that alpha channels are always in greyscale, because they don't hold any colour information.



You can set the colour channels to display in colour in *Photoshop's* Preferences; this gives a more realistic preview of how each plate will print.



To view a channel while making the others invisible, without having to click on the eye icons, hold down the Alt key as you click on the channel's thumbnail.

Spot channels

Spot channels contain a mask with a specified colour that will be overprinted on to an image, and they can be created from selections made on other channels or layers, or by using the painting tools. When an image is saved with a spot channel, that channel is used as an extra plate in the printing process. You can create several spot channels, with each one containing different colours, to print more than one spot colour. When choosing a spot colour, it's best to select one from the Pantone range in the list of custom colour systems, as this is the most commonly used range.

You can also print an image just using spot colours, for a more stylised and specialised effect. This technique is particularly useful if you're designing on a budget, and only using two or three colours. Instead of the conventional CMYK colours, try converting an image to a Multichannel file by selecting Image > Mode > Multichannel. The colour channels will then be converted into spot channels, enabling you to change the colours of each channel by opening the palette menu and choosing Channel Options. It doesn't matter whether the image is in RGB or CMYK mode, although you'll get an extra channel from a CMYK image. You'll notice that the composite channel is lost when an image is converted to multichannel mode, because it's no longer needed.

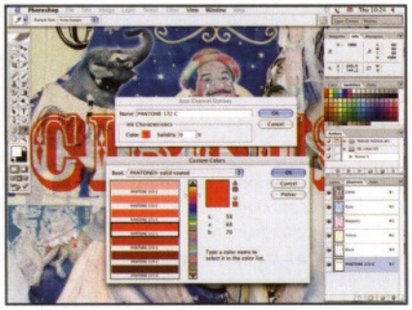
Stylised effects

Applying *Photoshop* filters and effects to separate layers is standard practice, but filters can also be applied directly to channels. A typical example would be applying a Gaussian Blur effect to an alpha

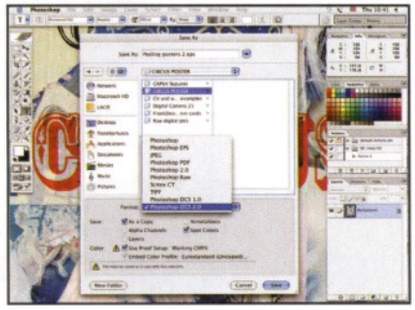
Creating a spot colour

We show you the easiest way to create a spot colour in Photoshop

1 Make sure your document is in CMYK mode, to give you the truest representation in print. Then create a selection to use as the spot channel – here the word CIRCUS was selected by Ctrl/Command-clicking on the text layer's thumbnail. The layer is then discarded.



2 Open the Channels palette, then click the arrow to open the palette menu and select New Spot Channel. Click on the Color box to open the Color Picker, then click on the Custom button. Choose a colour from the Pantone range and click OK. The Solidity value can be left as default, because this only affects the on-screen preview, and not the percentage of the printed spot colour.



3 The spot channel takes the name of the Pantone number, enabling other applications to recognise the extra colour. If the file is then imported into *QuarkXPress* or *InDesign*, the colour will be added to the colour list. Save the image as a Single File DCS 2.0 (Desktop Colour Separations) file, and choose a TIFF preview to make the image compatible with both Windows and Mac OS.

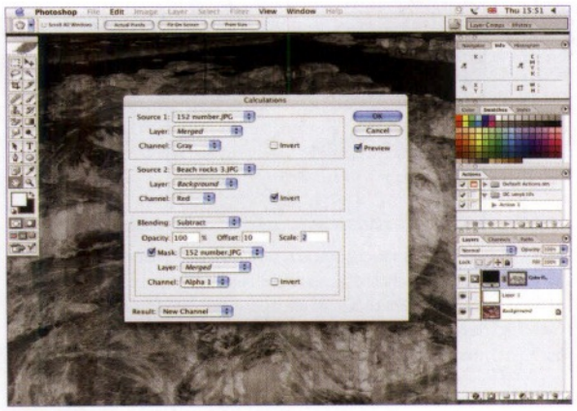
channel containing a mask, to soften hard edges; this technique is often used to help blend different elements in an image. Colour channels can also be duplicated, enabling you to apply effects to while preserving the original channels. You can produce some highly stylised images when the channel is then used as the layer mask for a fill or adjustment layer. You can have up to 56 channels in a document, so it's no problem to create several duplicate channels for experimenting with filters.

Another simple technique is to turn off one or more channels to see what effect it has on the colour of an image. Reducing the number of colours will again produce a more stylised effect, particularly if filters are applied to the image as well. Bear in mind that you'll need to delete the information in the hidden channel before saving the image, because the channel will become visible again in the new file. You can delete colour channels altogether, but the image will then be converted to a multichannel file, and there are a limited number of formats available in which you can save these.

Splitting images

There are two options in the Channels palette menu that enable you to split or merge channels in a document. The Split Channels option will create a new greyscale document from each colour channel in a flattened file. The original document will then be closed, and each

> "You can create an image in which each channel contains a different image and colour"



The Calculations command enables you to create complex masks by blending the layers and channels from two different sources.

Here, two photographs were blended together using the Calculations command, then coloured using fill and gradient layers.

channel will appear in a new document window. This option is useful if you want to view all an image's colour channels at once.

The Merge Channels command reunites split channels into a single document. In fact, this option will combine a number of open greyscale images into a single document, as long as they all have the same dimensions, so you can create an image in which each channel contains a different image and colour. You have a range of colour modes to choose from, depending on the number of images that need to be merged. Three or four images can be merged into an RGB or CMYK file, but any number above these will have to be combined using the Multichannel option. A multichannel image will appear in greyscale, and you can colour it by choosing a spot colour for each channel. Once a channel has been converted to a spot channel, it can't be changed back to an alpha channel unless you revert to a previous history state, so be sure to work on duplicates of your images when experimenting.

> "One advantage alpha channels have over layer masks is that you can blend several channels to create new ones"

Creative calculations

The addition of layer masks to *Photoshop* has seen a decline in the need to use alpha channels to create masks and make selections in the conventional way. But one advantage that alpha channels have over layer masks is that you can blend several channels together to create new ones. Mixing channels is nothing new – the Calculations command under the Image menu has always been a part of *Photoshop* – but most users aren't aware of its creative power.

The Calculations command enables you to build up complex masks that can be used for subtle colour correction. Once a new alpha channel has been created using this option, a selection can be made from it, and used as the layer mask for an adjustment layer. This technique is useful for making subtle colour corrections to images that may be too high in contrast or saturation in certain areas.

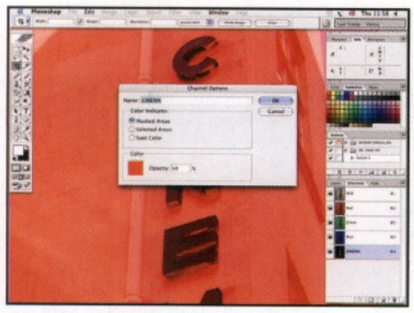
To use the Calculations command to its best effect, you should have at least one document open, with more than one layer containing different contents. Select the Calculations command from the Image menu, and experiment with the option settings. You can choose two different sources from the list of open documents, as well as a specific layer and channel from each source to be blended.

Two extra blending modes are available for the Calculations command – Add and Subtract – and these also have extra options for offsetting or scaling the effect. A live preview shows the result of the blended channels, which can then be saved as a new channel. This kind of channel blending technique can be used to produce extremely complex masks for special effects – it's possible to create entire illustrations just by blending together channels that contain different elements, then converting the channels to layer masks to add colour on layers. ■

Creating selections using alpha channels

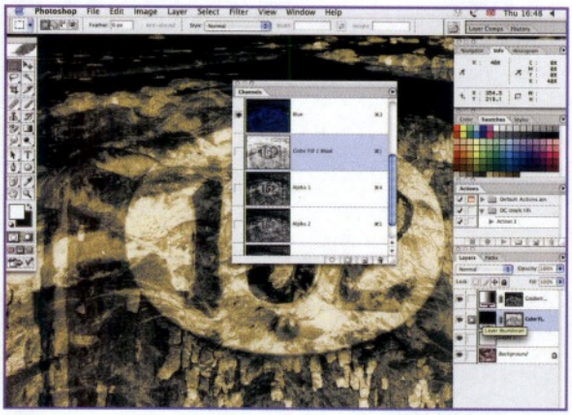
Find out how to make the most of alpha channels...

1 Alpha channels are ideal for storing masks that can be used throughout an editing session, or saved with an image file for later use. Start by creating a Quick Mask, or make a selection from a channel or layer. Here the Color Range command has been used to select the cinema sign in the image.

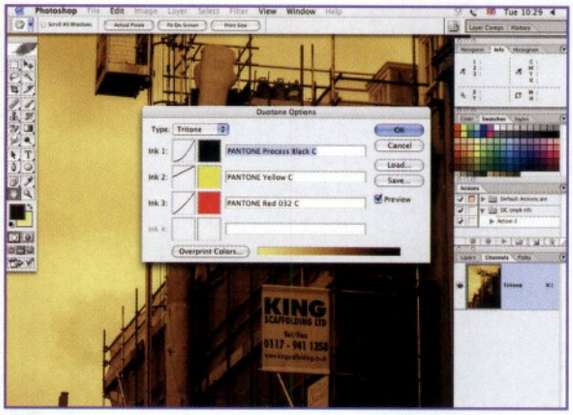


2 In the Channels palette create a new channel by clicking on the 'Save selection as channel' button. You can adjust the options for the channel by clicking on the triangle and choosing Channel Options from the palette menu. You can name the channel, set its colour and opacity, and also convert it to a spot channel.

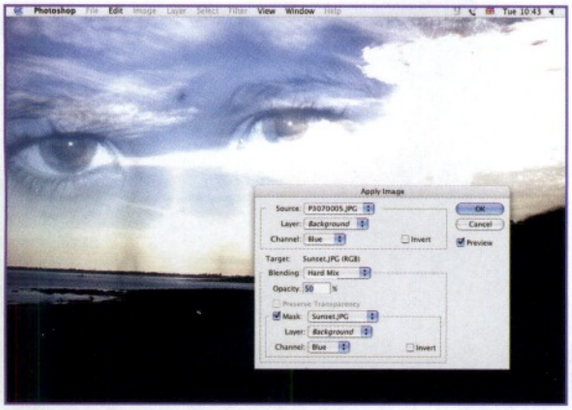
3 To use the channel as a selection, click on the 'Load channel as selection' button. Now you can use the selection to create a layer mask, or to edit a layer directly. If a new fill or adjustment layer is created, the selection will be transferred to the layer mask.



Layer masks are basically the same as alpha channels – when a layer with a layer mask is selected, a temporary channel appears in the Channels palette.

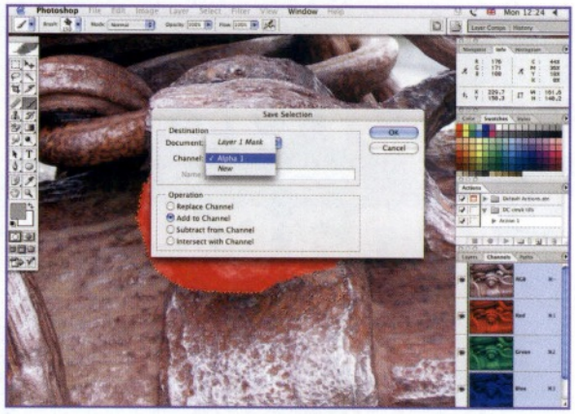


In the case of Duotones, all the colour information is contained in a single channel. The colours have to be adjusted in the Duotone Options dialog box.

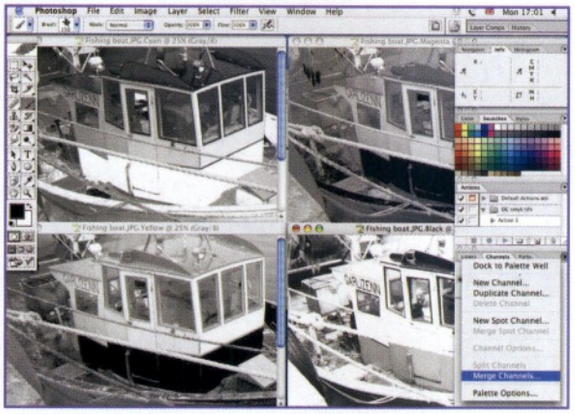


The Apply Image command is similar to the Calculations command, and enables you to mix layers and channels between images.

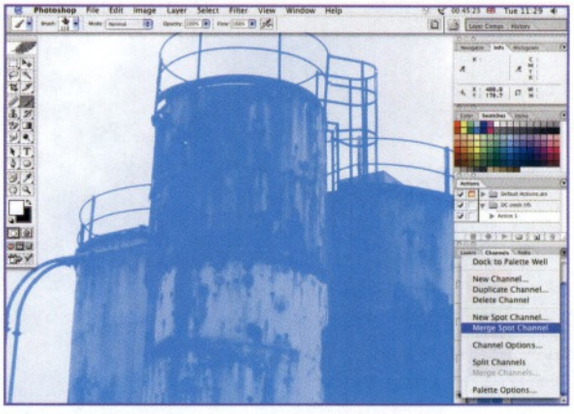
"Most users are not aware of the creative power of mixing channels"



The Save Selection command enables you to perform several selection operations, to build up more complex masks on alpha channels.



This CMYK image has been split into four separate files, with each containing a single colour channel's information.



A spot channel can be merged with the other colour channels in an image by selecting Merge Spot Channel from the Channels palette menu.

Batch processing your images

Discover the power of Photoshop's Automate submenu. It can, as the name suggests, save you a whole lot of time...

The Automate features of *Photoshop* are among the most underrated features of the application, and they're invaluable to anyone who regularly processes large batches of images. The options found under File > Automate menu enable you to create actions, which in turn enable you to automatically apply a change – whether it be a change in size, resolution, colour mode, or a filter effect or other operation – to a whole set of files.

Photoshop's batch features also enable you to rename files as you modify them, and you can specify folders and sub-folders of images you want to make changes to. You can even create small, standalone applications from the Automate menu, known as droplets; you can then drag and drop multiple files or folders on to these, and sit back and let *Photoshop* process the images according to the action you've specified. The batch processing options will speed up you workflow no end, so read on, and learn how to master the Automate submenu...

Words by Rob Carney. **[e]** rob.carney@futurenet.co.uk. Illustration by Joost Korngold **[e]** jk@renascent.nl

Batch Processing[CA]

Clublime Paula Photoshoot

Batch Processing in Photoshop for Computer Arts Projects Clublime Paula Photoshoot Batched by Renascent

Part 1: Batch processing

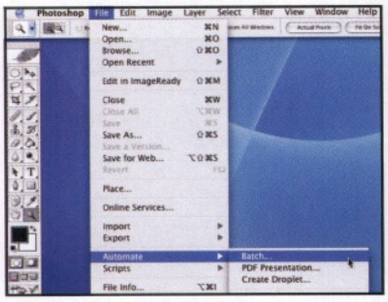
Photoshop's batch-processing tools make applying changes to multiple images easy...

Managing actions

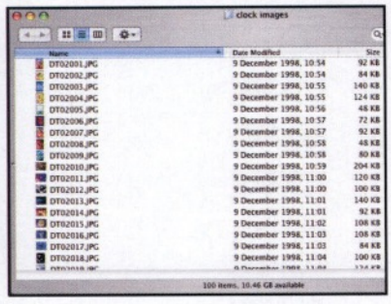
Make sure you always save your actions into sets, and give both the set and action a memorable name. Someone else may be running these commands one day, so help them to know what they're processing.

Save as

If there's no Save command in the action you specify in the Batch processing dialog, you'll need to set this up in the Batch dialog. If you don't, nothing will be saved. Make sure the Override Action 'Save As' Command option is disabled. However, it can be enabled if you've specified a Save As command in the action.

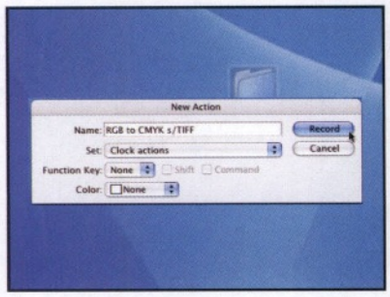


1 When you want to perform the same operation on multiple files, the last thing you want to have to do is open and apply the changes to each one in turn. Luckily, *Photoshop* has some superb tools for automating changes to a large number of images.



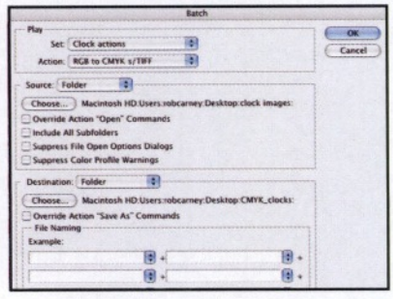
2 Here we have a folder containing 100 JPEGs that are all in RGB mode. However, we need each one to be converted to CMKY, and saved out as a TIFF file. The first thing to do is set up an appropriate action in *Photoshop*.

3 Go to the Actions palette and, using the Options dropdown, create a New Set and name it appropriately. Select the set, and choose New Action from the same menu. Again, give it an appropriate name.

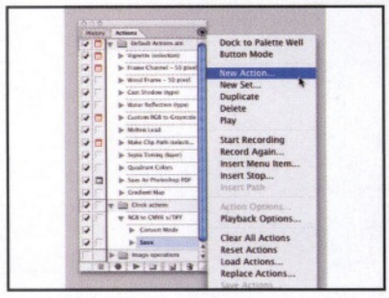


4 Create a new folder on your hard drive – this will be the destination for your converted files. Then click Record back in *Photoshop*. Next, in the Actions palette, hit the stop button. Open one of your original images, then click the red record button in the Actions palette. It's important to open your image after you click Record, otherwise this open command will be included in the action.

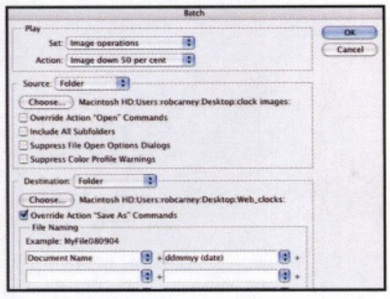
5 Change the colour mode to CMYK by going to Image > Mode > CMYK, and then go to File > Save. Choose TIFF from the Format dropdown, and leave the rest of the options as they are. Save the image in the new folder you created earlier.



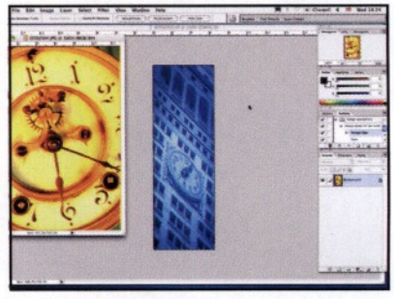
6 Go to File > Automate > Batch. In the Play section of the dialog, choose the set and action you just created. In the Source area, choose the folder containing your original images. In the Destination area, choose the folder you created earlier. Hit OK, then go and do something else (or sit and watch *Photoshop* make changes to all your images). You can stop the batch operation at any time by hitting the stop button in the Actions palette.



7 Let's create a New Action and Batch command, this time to adjust the image size by 50 per cent and save each image out with a different, recognisable file name. The first thing to do is create your action. Make sure you save the file into a new folder (again, appropriately named).



8 Go back to the Batch dialog, and choose the set and action as you did earlier. This time, use *Photoshop's* Batch command to rename the files with a date extension. Choose 'Override Action "Save As" Commands', and choose an extension that's appropriate. We've chosen ddmmyy.



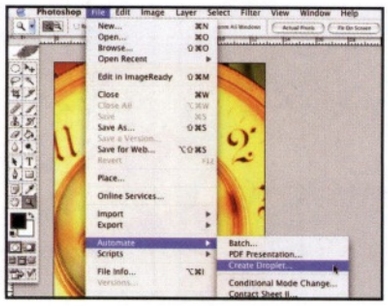
9 Hit OK, and *Photoshop* will not only change your images according to the action you specified, it will also rename your files accordingly. You can apply a batch to run any action, and use an action to automate almost any command.

Part 2: Droplets

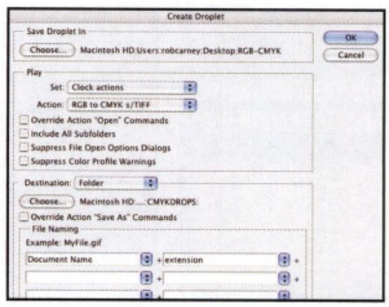
Droplets are an even easier way of applying changes to images quickly...

Filing droplets

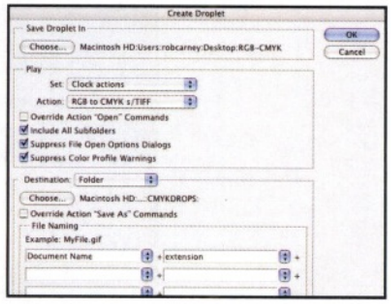
It's a good idea to keep all your droplets in the same place. It sounds obvious, but having an organised file structure will help you keep track of the droplets. You could always put them in your dock as well (in OS X), because they're simply standalone applications.



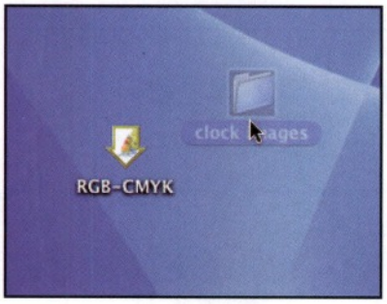
1 Droplets do the same thing as the Batch command, but make it even easier to apply actions to multiple images. In *Photoshop*, create a new action (or use the one you created earlier) and go to File > Automate > Droplet.



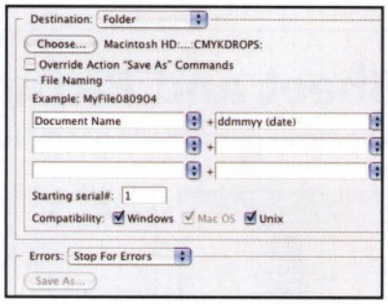
2 The dialog that appears is similar to the Batch dialog. First, you need to save out your droplet to the desired location. Choose a name for your droplet, and save it to your desktop. This droplet is simply an application that triggers an action.



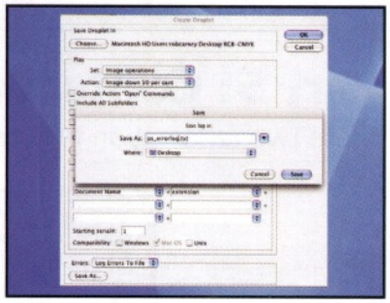
3 Choose the Set and Action in the Droplet dialog, and select a Destination. As in the Batch dialog, you can choose to ignore colour space and file open dialogs and warnings, as well as include subfolders.



4 Drag an entire folder of images on to the droplet, and watch *Photoshop* process the images. If you've checked the Include Subfolders box in the Droplet dialog, *Photoshop* will process subfolders within the folder.



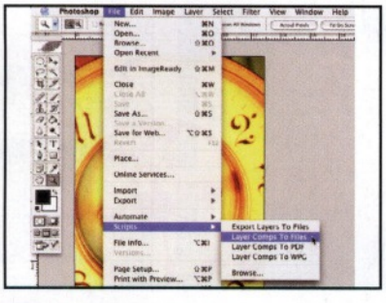
5 Again, as with the Batch command, you can specify a new file name and extension for your converted images, as well as specifying file compatibility (Mac, Windows, Unix).



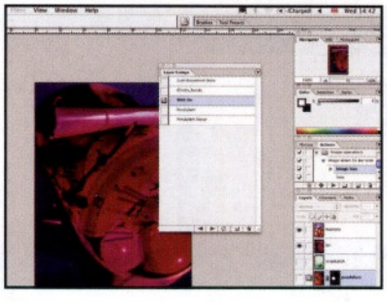
6 If your droplet encounters any errors when processing images, *Photoshop* stops the action. If you want it to carry on regardless, log these errors to a file and save it as a text file in a specific location; use the Errors dropdown in the Droplet dialog to set this up.

Part 3: Scripts

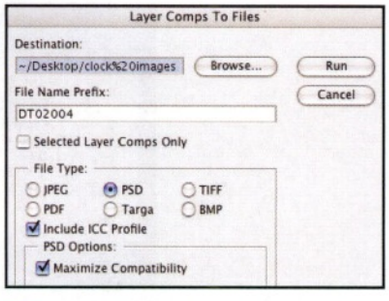
Photoshop CS supports AppleScript, JavaScript and Visual Basic – all can automate frequently used tasks...



1 In the File menu, go to the Scripts submenu; here you'll find a small selection of scripts that enable you to automate various tasks from within *Photoshop*. One of the handiest supplied with the program is the 'Layer Comps To Files' scripts.



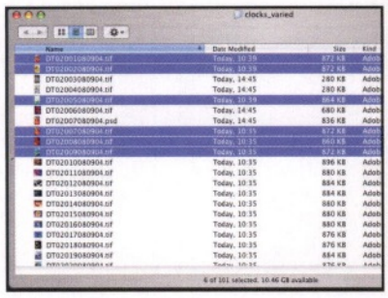
2 This image has a number of Layer Comps. To export each one as an image would take a long time, and involve copying and pasting a lot of layers and saving out a lot of files. Alternatively, we can export each Layer Comp as a file.



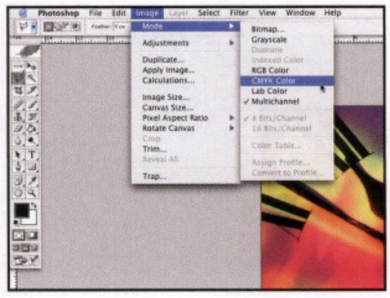
3 Go to File > Scripts > Layer Comps To Files. In the dialog that appears, choose a file name and prefix, specify a destination and choose a file format. That's it! Browse for more scripts in the *Photoshop* application folder on your hard drive.

Part 4: Conditional

Use this little-known automation option to change multiple image modes within an action quickly...



1 A nifty *Photoshop* automation option is Conditional Mode Change; this enables you to specify conditional colour mode changes depending on your source images. Here we have a folder of images that are variously in greyscale, CMYK and Index modes.

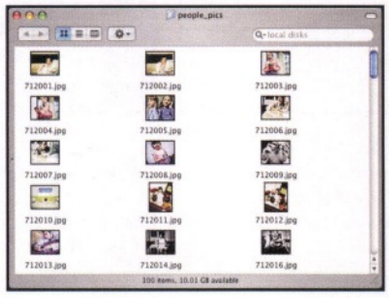


2 If we were to run an action to convert all of these to RGB using the Image > Color Mode command as part of an action, *Photoshop* would throw up an error, because the source colour modes for the images are different.

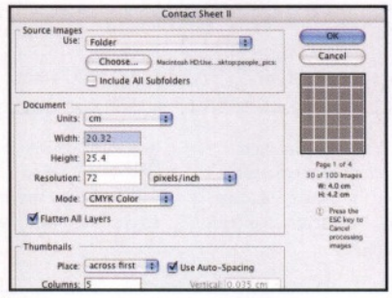
3 Get around this by using the Conditional Mode Change option from the Automate menu when recording an action. In this case, select Greyscale, CMYK and Bitmap in the Source Mode, and RGB in the Target mode. Then continue with the other operations, and set up your batch as shown earlier.

Part 5: Contact Sheet and Picture Package

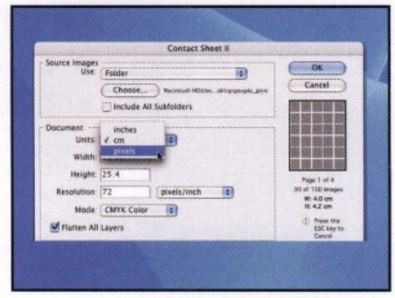
These two automation features come in particularly handy for photographers...



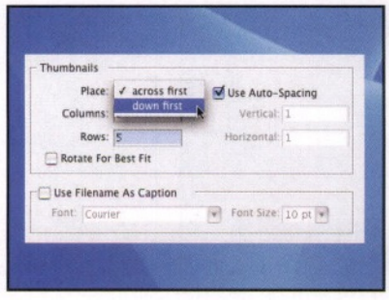
1 Contact Sheet II is a handy utility in *Photoshop* that enables you to create a contact sheet, giving you precise control over the number of images, spacing and output type. Here we have a folder of images that we want to show a client.



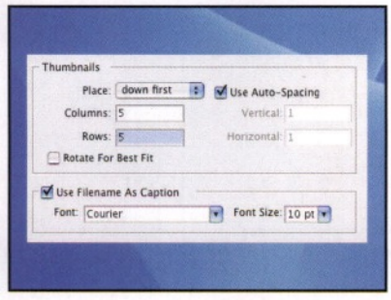
2 Go to File > Automate > Contact Sheet II. Under Source Images, use the Choose button to navigate to the relevant folder on your hard drive, and uncheck Include All Subfolders.



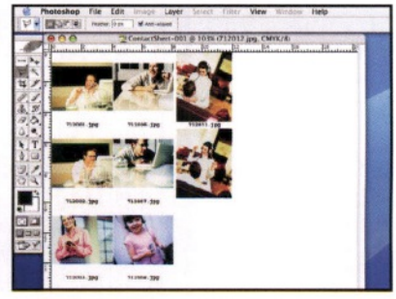
3 In the Document area of the dialog, specify the size, units and resolution of your contact sheet and ensure the Flatten All Layers box is checked (you could leave this unchecked if you wanted to manually shift thumbnails around at a later date).



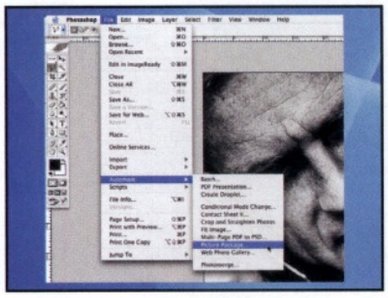
4 In the Thumbnails section you can specify whether the thumbnails run across or down, and enter the number of columns and rows. We've gone with five rows and five columns, without the 'Rotate For Best Fit' option checked.



5 Finally, check the Use Filename As Caption box and choose an appropriate font and font size. In the top-right of the dialog you'll see a preview of the layout of your contact sheet. Underneath this preview *Photoshop* displays the number of pages the contact sheet comprises, and the number of images on each page.

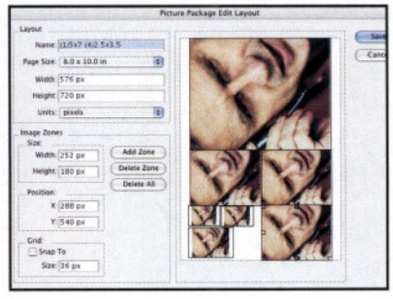


6 Hit OK, then sit back and watch *Photoshop* create your contact sheet. Bear in mind that at any time during the process you can hit Esc to stop the contact sheet being created.



7 Picture Package is a tool that enables you to quickly print multiple images on one page directly from *Photoshop*. Select the image you wish to print, and go to File > Automate > Picture Package.

8 You can specify a paper size, add labels and change colour modes. You can also choose a folder to lift images from, or select a file directly from your hard drive. In the Document section of the dialog, the Layout presets enable you to change the positioning of the images on the page.



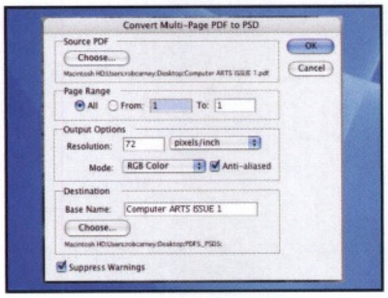
9 To edit the layout, click the Edit Layout button below the main preview, and scale the images accordingly. You can also click on an image to import a new file into that particular space. This is a handy tool if you need a quick print-out of multiple files without using a layout application.

Part 6: PDFs to PSDs and more

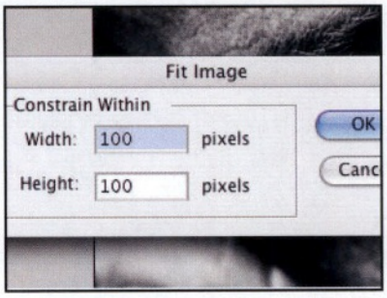
Exploring more of *Photoshop's* Automate options...

PDF presentations

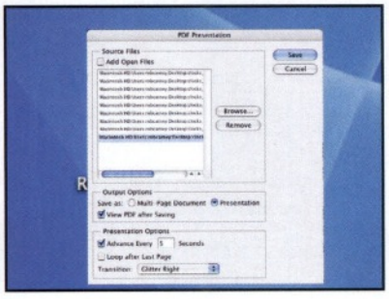
After exporting a PDF presentation, you can open it in *Acrobat Pro*, and use the new roundtrip editing features to edit the images and automatically update the PDF file. You can also export the images directly from the PDF presentation, and print the pictures.



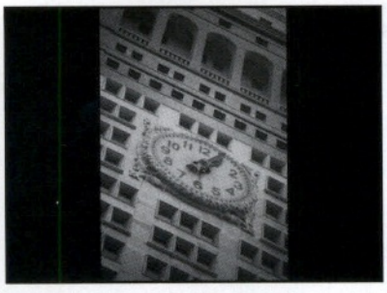
1 Another handy tool from the Automate menu is the Multi-Page PDF to PSD. When you want to open a PDF in *Photoshop* you're presented with a dialog prompting you to specify a page to rasterise; this option creates multiple files from one PDF.



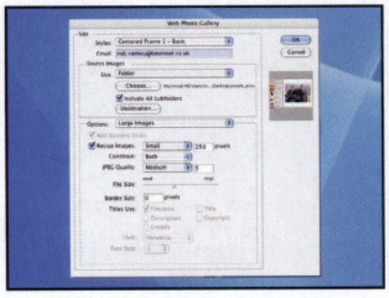
2 Fit Image is a similarly useful command, which fits the currently selected document to a specified size without affecting the aspect ratio. It will, however, resample the image.



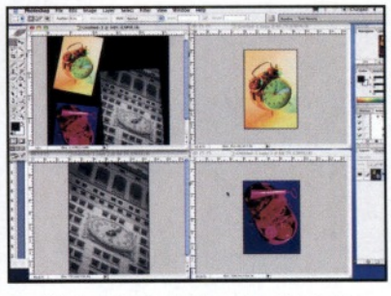
3 PDF Presentation is great if a client asks for a slideshow of images and you haven't got access to *Acrobat*. Open up the dialog from the Automate menu, and either choose new files from your hard drive or add open files (or both).



4 In the Source Files dialog you can drag and drop the files into any order. In the Output options, specify the file as a Multi-Page PDF or a Slideshow – and if it's the latter, type in the number of seconds you want to hang on an image. Hit Save, specify a file name/path and you're done.



5 The Web Photo Gallery option is great for quickly uploading files to the web in a presentable form. To use this, simply choose a folder of images, specify a theme (you get a preview at the top-right of the dialog) and then go through the options, choosing colours, security settings and image sizes.



6 The final significant Automate command is Crop and Straighten – this enables you to select a folder of images (usually ones that have been scanned in) and crop and straighten them automatically. It's not rocket science, but it works well enough.

Fine-art photography

Can you make it as a modern artist? The gloves are off, and the time is right to exhibit your images...

Modern art is no longer just about pickled sharks and empty beds; a new wave of artists is employing the latest technology to create cutting-edge imagery. So if your only experience of modern art is the Turner Prize exhibition, here's your chance to get some photographic inspiration.

The hardest part of being an artist is coming up with ideas, so in this tutorial we hope to give you a few pointers to get you started. But remember that art is an organic beast that never sleeps and, thanks to our ever-developing software and technology, there's also no limit to the ways in which you can express your ideas. If you have a creative streak, believe in what you do, and love just creating – that's the main reward that art has to offer. If you manage to sell something, it's a bonus.

Walking up to the Tate Modern with your latest creation and asking for an exhibition would probably lead to a rapid and embarrassing exit from the building, but approaching your local trendy café or library could prove far more rewarding. Of course, you don't have to rely on others for your exhibition space; you can get together with a group of friends, and put on your own show. This approach worked for Damien Hurst and his friends back in the 1980s with their warehouse show 'Freeze' – the rest is history.

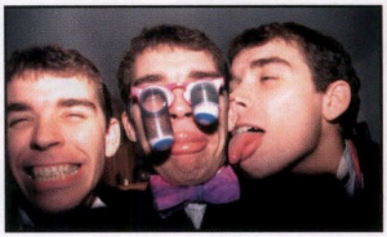
Expertise and images provided by Paul Smith. Paul was one of a small group of photographers in the mid 1990s who embraced the creative possibilities of photography and digital technology using computer software such as *Photoshop* to create significant photographic work. Visit **www.paulmsmith.co.uk**

Part 1: From inspiration to exhibition

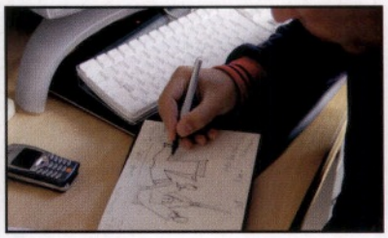
Think of a concept, and plan your photoshoot...

Concept is the key

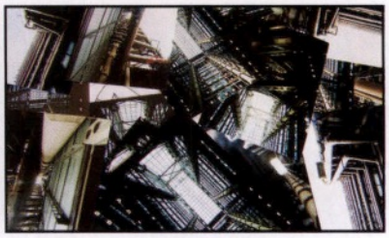
Most contemporary artists use their own life experiences as a basis for their ideas. The skill is in converting your ideas into a visual form that can be read and understood by your audience. It helps to use a reference from a pre-existing visual format as a starting point. In this case, we've used the warrior heroes from the film *Crouching Tiger, Hidden Dragon* as our inspiration.



1 By using an existing visual form, viewers can immediately recognise what the image refers to. An example of a visual style is the snapshot, and in particular the snapshot taken during a night out. This image uses the method of multiple self-portraits to tell its drunken tale.



2 Everyone has their own way of working, but for this project all the ideas evolved through the use of a sketchbook, in which images were mapped out and the components were planned. The pictures were then shot on film, drum scanned and manipulated using *Photoshop*.



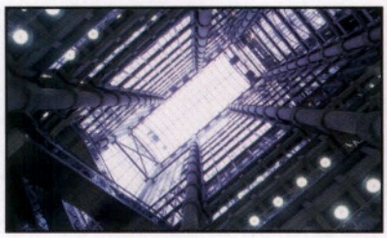
3 Pre-planning is vital prior to the photoshoot – there's nothing worse than turning up with a team of assistants and not finding the right location to shoot. So visit the location in advance, take some reference shots, work out the right time to shoot, and find the angle that works best for you.

Part 2: The photoshoot

Make sure everything fits together...

Organise everything

When you're on a shoot, you need to concentrate on the pictures, so plan and brief everyone in advance. Ensure that you have everyone's mobile phone number, and that people know where and when you need them. Involved in this project were Dickson Manchester (the commissioning client), the agent, a make-up artist, a stylist, a tattoo artist, a photographic assistant and a rope expert.



1 The angle that you shoot at must be the same for all your images. With this shoot all elements were shot looking directly up, so a spirit level was used on the lens to avoid any inconsistencies.

2 Lighting is the next key. In this case, there was limited control over the background image, so the other images were based on the lighting dictated by the building shot. Light was bounced from the ceiling, with the underside of the figures kept dark.

3 When shooting a layered image, try to keep the surroundings as similar to the background as possible – this helps greatly when it comes to cutting, pasting and blending the images.

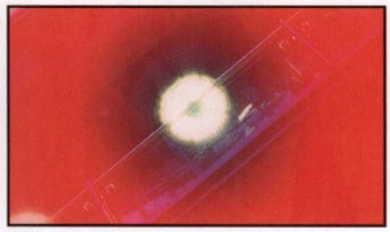
Part 3: Preparing each layer

To start with, work on independent layers to avoid large file sizes...

Lighting

Croma-key doesn't work with *Photoshop* yet, because a single strong colour will leave its mark as an outline on a figure. A pure black background will cause your figure to blend into the surroundings, making it difficult to separate later, while white will create a halo effect. So try to shoot as much as possible in one location, with a similar background and lighting.

1 Prior to putting the layers together, carry out any improvements while the file sizes are small enough for your computer to handle them easily. Each drum scan, taken from a medium-format slide, is 200MB, so the final layered image can often be slow to work with.

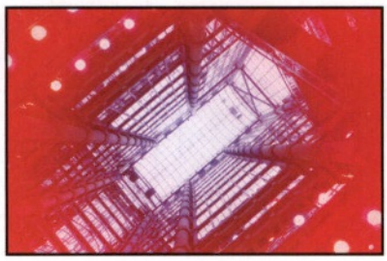


2 With the Lloyds building background lacking colour, we wanted to include some dramatic colours in the image. This was achieved by adding additional tones to the existing lights. The first step was to create a Quick Mask, using *Photoshop's* Gradient Tool to generate a soft selection.

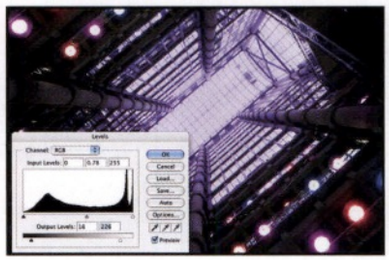
3 Add the colour to the selected area by using the Color Balance or Hue/Saturation commands. We used an extreme red, magenta and blue on the lights to make them stand out, and give the background a dramatic and filmic atmosphere.

Photographing layers

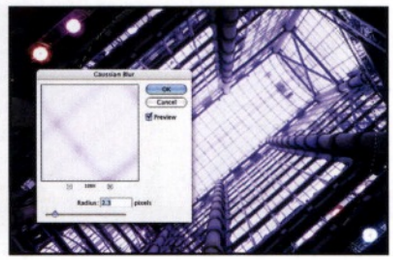
When photographing the different elements, try to use films with the same batch numbers, because this will give you a better consistency of colour. And stick to the same image source, because mixing digitally shot images and film-generated photographs will complicate matters. Although all the differences can be resolved in *Photoshop*, it's a time-consuming process that's best avoided.



4 An additional selection is made, once again using the combination of Gradient Tool and Quick Mask mode, set on black-and-white. This creates a circular selection, which is then inverted, resulting in a selection with a gentle transition from the centre of the image out to the edges.



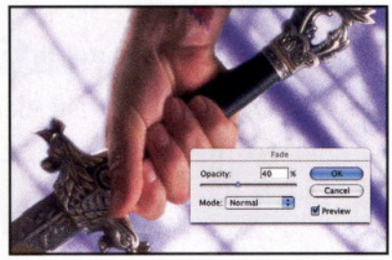
5 The Levels dialog is then used to darken down the outer ring of the image, which has the effect of drawing the eye into the centre of the frame. An additional benefit of this step is that it hides some of the clutter in the background.



6 All the photographic elements are shot with the maximum aperture possible, and blur is then added in *Photoshop*. By inverting the selection used for the levels adjustment, we have the perfect area to which to apply a Gaussian blur, creating a shorter depth of field than originally used.

7 The downside of applying a blur is that the film grain that can be clearly seen in the original scan will end up being blended in. If this isn't corrected the additional layers will have a different texture, and therefore won't look right.

8 This problem can be corrected easily if we use the same selection and apply a Film Grain or Grain filter. If you're working in *Photoshop CS*, the level of control available with these filters has been greatly increased, and you should be able to achieve an almost exact match.

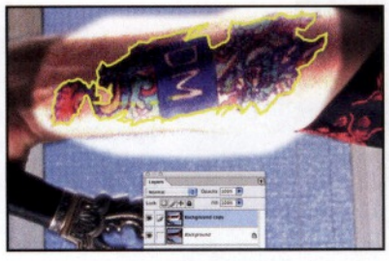


9 We recommend that when using filters you always go for a more extreme use of the filter than is needed. Then, once it's been applied, go to Edit > Fade, and reduce the effect slightly until the correct level of filter is reached.

Part 4: Attention to detail

Pick out a few elements, and give them a little extra punch...

1 This piece was a private commission for Dickson Manchester. The client wanted it personalised, so a tattoo artist was employed to draw a suitable design incorporating the DM initials. A make-up artist was also brought in to paint the design on the model's skin. Unfortunately, the tattoo was not clear enough in the original photograph.



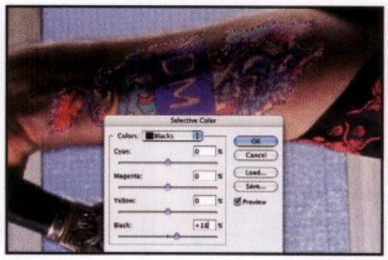
2 The first stage to correcting this problem is to copy the tattoo and paste it into a new file. The layer is then duplicated. The new layer can be adjusted using Levels, or any other method, to increase the contrast between the tattoo and the arm. Click OK and deselect. Use the Ctrl+Z option to view the corrected and uncorrected state to see if you've done a good job; if you haven't, try again.

3 The tattoo can now be traced quickly using the Magnetic Lasso Tool, because the tonal difference is picked up easily. Now save the selection and dump the top layer, leaving you with an unaltered image and a perfect selection.

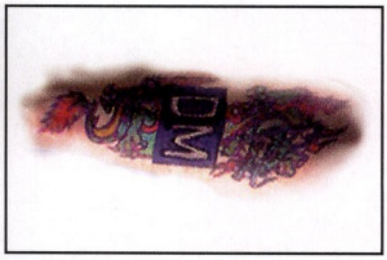
Attention to detail, continued...

How big?

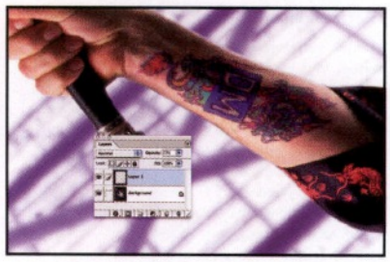
To determine which file size you need to work with, decide which output method you'll be using, then research what the optimum file size is for your selected process. For example, if you intend to print a 10x8-inch image from an inkjet printer, a 10MB file size would suffice. However, if you plan to have a 10x8-inch negative made, 1GB might be more appropriate.



4 We applied a slight feather to soften the edges of the selection, then corrected the tattoo using a combination of Curves, Hue/Saturation and Selective Color adjustments until it was clearly defined. Using Selective Color, and increasing just the black, helps to bring out the outline of the tattoo.



5 Once the necessary corrections have been made, the tattoo can once again be selected. This time a soft selection, incorporating some of the forearm, is used to enable us to copy and paste the new layer directly on to the original forearm.



6 Finally, the new layer is lined up exactly over the original – the two layers should blend together perfectly. If the new tattoo has been altered too much, we can reduce the opacity of the new layer, to let the original layer show through.

Part 5: Generating the layers

Use layer masks to extract elements seamlessly...

1 A good way of extracting the core elements from their background is to start with a rough cut and paste. Then add a layer mask (choose Add Layer Mask > Reveal All) and, using a soft-edged brush, start fine-tuning your selection.

2 Layer masks give you endless opportunities to correct your cut-out, but to get an accurate outline you need to zoom in until the pixels can be seen clearly. Improving the edges is a laborious task, but it will improve your final image greatly.

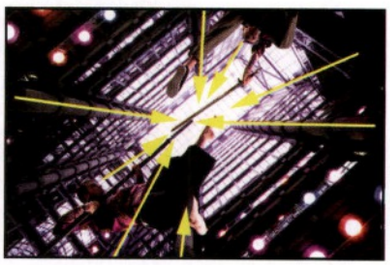
3 Once you've completed your layer mask, drop in a blank layer just above the background and fill it with a strong colour. You'll then see clearly any remaining pixels that have been missed. This layer can then be used for checking other cut-out layers.

Part 6: Composition

Use the creative freedom offered by Photoshop to experiment with composition...

1 The background scale and the proportions of the imported elements can differ. Correct this by using the transformation tools, holding down the Shift key to constrain the proportions of elements.

2 Experiment with your compositional structure by rotating your layer using the Free Transform command. Use the line-of-sight between your figures to help decide where to position them.



3 Look for angles in the background that you can line up important elements with. In this composition, the clash of the swords is the central focal point.

Part 7: Colour correction

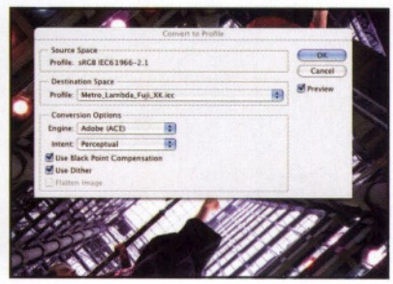
Don't be afraid to experiment, and push a few boundaries...

Perfect prints

There's no set rule for how a final print should be printed and mounted, but most collectors are still wary of the archival quality of digital prints. Ask your printer how long a print is supposed to last, and avoid hanging your pictures in direct sunlight and damp spaces. Finally, bear in mind that unique prints are worth more than one print from an edition of 1,000.

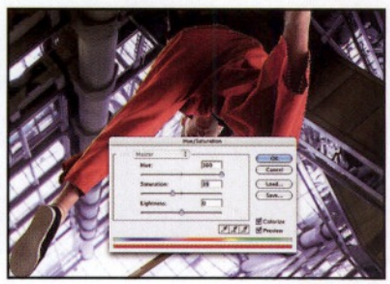
1 Colour is without a doubt the hardest area to correct, because every image differs in tone and light depending on when and where it was shot. All the images of Robbie Williams for the Sing When You're Winning album cover were shot at the same time, and on the same type of film.

2 Images taken at different locations with different lighting sources will need to be colour balanced before they can be mixed. This colour correction should be done purely by eye, using a combination of Hue/Saturation and Color Balance.

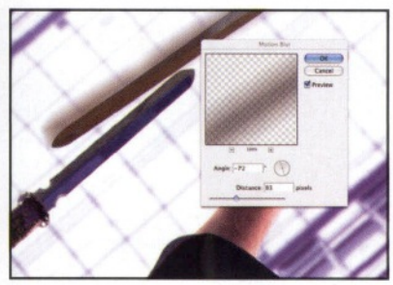


3 At a size of, say, 125x100cm, most photographs are improved if they're colour saturated, and given more contrast than normal. To get a decent colour match, download a specific colour profile to match your printer's settings.

4 Once the layers are in tune with each other, add a series of adjustment layers (Hue/Saturation, Curves, Color Balance, and so on), depending on what corrections are needed. You can use these adjustment layers to compensate for any changes that occur during the profile conversion.



5 The trousers worn by the top swordsman seemed to be fading into the background, so we selected them, and, in the Hue/Saturation dialog, selected the Colorize option to add red; this ensures they're more prominent within the frame.

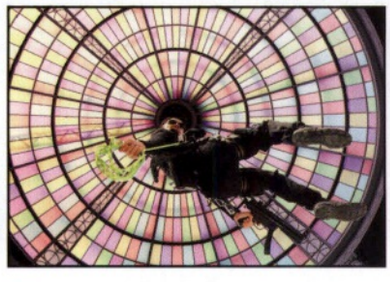


6 To add a final touch of realism, we selected the end of the sword, copied and pasted it under the original layer, and applied the Motion Blur filter. This has the effect of putting some movement into the weapon without losing all the blade's detail. We repeated the process with the staff.

Part 8: Printing and presentation

Find a printer you can trust...

1 Once you've finished your digital work, ensure that you've flattened the image, removed any dust spots and saved the image to the required format that your printer has requested; this can vary greatly depending upon the method of printing.



2 When it comes to printing processes, you can create a negative directly from a digital file, which is then printed using a standard photographic method such as Duratans. Another popular printing process is Lambda prints, used mainly because of their archival quality.

3 Finally, don't spoil all your hard work by using a clip frame. Try dry-mounting on to aluminium, or using a decent frame. The image created in this tutorial was part of a series of photographs that were shown on light boxes, hung from the ceiling and viewed from below. ■

photoPLAY G-X 400
TRACK LENGTH ARTIST
01 3:55 The photo realists
The beat of the CPU
VOLUME
MP3 PLAYER / RECORDER

Photorealism in Photoshop

Using nothing but Adobe Photoshop, we show you how to build a photorealistic MP3 player...

Photoshop can be used to create highly convincing photorealistic imagery. In this tutorial we're going to show you how to create an interface shape, add realistic depth to it and then add all the little details that give it that special touch of realism. Don't go looking for this gadget at your local electronics store – it only exists in the mind of the creator, on these pages, and on the DVD. Such photorealistic images are usually created from observing objects in the real world, but in this case we're taking a different and fun tangent.

Some of the effects and techniques are fairly advanced, so if you're a beginner, this may be a little frustrating for you. Intermediate users will fare much better, picking up some useful techniques along the way. You'll learn some valuable workflow practices, and many of the secrets of photorealistic digital illustration.

You need to be patient with this tutorial, because we cover a lot of different techniques and move pretty quickly. If you're creating the image full size, you'll also need plenty of RAM – our finished file exceeds 500MB.

Expertise provided by Colin Smith, founder of the popular PhotoshopCAFE web resource, and a graphic designer famous for his photorealistic illustrations composed entirely in *Photoshop*. He's co-authored a number of books for Friends of Ed, including *New Masters of Photoshop: Volume 2*. Visit **www.photoshopcafe.com** to see more of Colin's work.

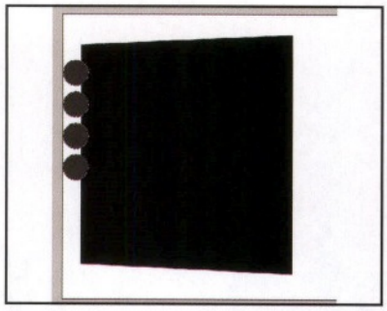
The custom shapes used in this tutorial can be found on the cover DVD in the DiscContent\Tutorials\Chapter 1\Tutorials\Photorealism folder.

Part 1: Creating the shape

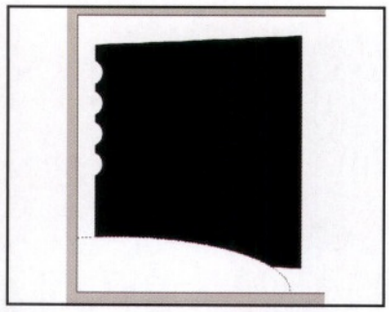
Create the rough shape of your MP3 player, and use gradients and lighting effects to add some depth...

Composite layers

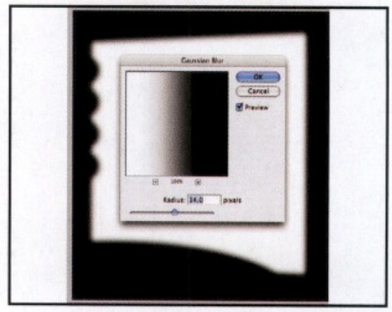
To build a composite layer, create a new blank layer and place it above all the layers you want to mix. Press Ctrl+Alt+Shift+E (Command+Option+Shift+E on a Mac); this merges all the visible layers into the new layer, while leaving the original layers intact.



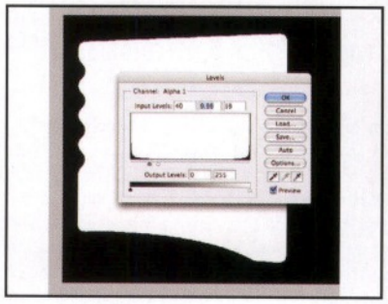
1 Create just one side of the shape, so that the full shape is symmetrical. To do this, create a new layer. Draw a rectangle using the Rectangular Marquee Tool, fill and then distort it using Edit > Transform > Perspective. Create a filled circle on a new layer, duplicate and select all by Ctrl/Command+Shift-clicking on the layer thumbnails.



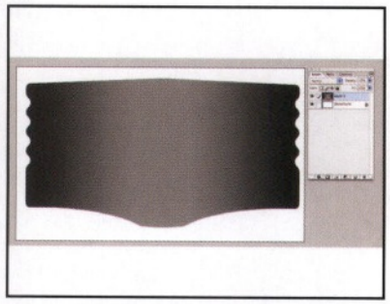
2 With the circles selected, click on the main shape layer, and press delete to remove the grooves as shown. Delete the circles layers. Choose the Elliptical Marquee Tool, and make a selection in the shape of a curve at the bottom corner of our shape. Hit delete to trim the shape.



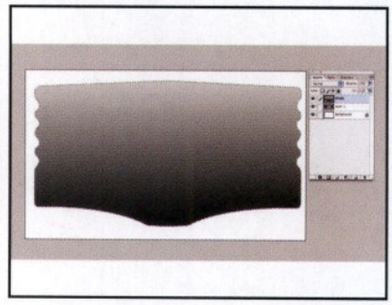
3 We now want to smoothe the corners of our shape. Select the entire canvas (Ctrl/Command+A). Copy the selection. Switch to the Channels palette, and create a new alpha channel. Paste the shape into the alpha channel. Choose Filter > Blur > Gaussian Blur and enter a Radius of 34 pixels.



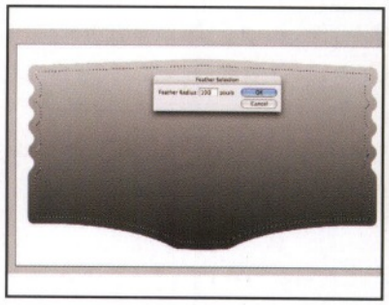
4 Now harden the edges of the shape by choosing Image > Adjustments > Levels. Pull the sliders close together to tighten up the shape. Notice that the shape changes size, depending on where the sliders meet on the scale. Click OK.



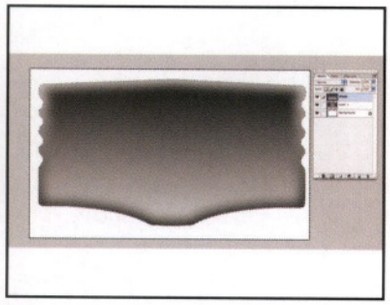
5 Load the alpha channel as a selection. Click on the RGB channel at the top of the Channels palette and go to the Layers palette. Fill the selection with a light-to-dark-grey gradient on a new layer. Duplicate and flip the layer. Merge the shape.



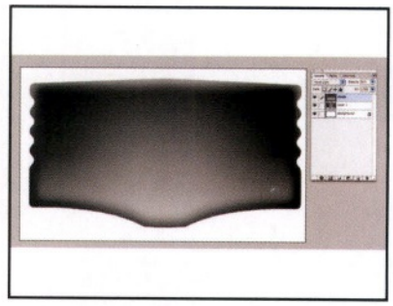
6 You can now discard the extra layers, as they're no longer needed. Next, add some depth. To do this, duplicate the layer containing the shape. Load as a selection. Fill with a light-to-dark-grey vertical gradient, with the lightest grey on top.



7 With the selection still active, choose Select > Modify > Contract Selection. Enter the maximum value of 100. Choose Select > Feather, and enter a setting of 100 to match the contraction.



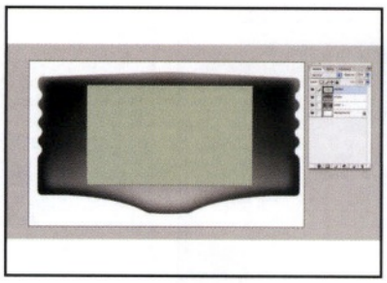
8 Using the same gradient setting as before, create a Linear gradient going in the opposite direction, this time starting from the bottom. Notice how this technique adds a 3D feel to the shape, giving it a nice rounded depth.



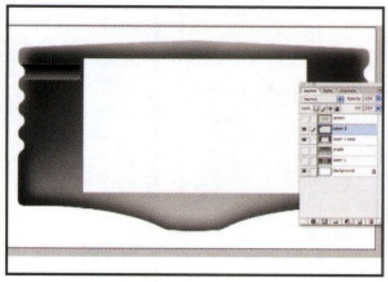
9 For even more depth, mix together the two layers. The mix of the different gradients gives a multi-dimensional feel to the shape. Change the blending mode of the top layer to Hard Light, and lower the Opacity to 91 per cent.

Realistic shadows

Shadows are one of the main sources of realism. Imagine a light shining down on your image, and create all your shadows and highlights with this light source in mind. Also remember that the more acute the angle, the harsher, darker and smaller the shadows appear. A low angle creates long, soft shadows.

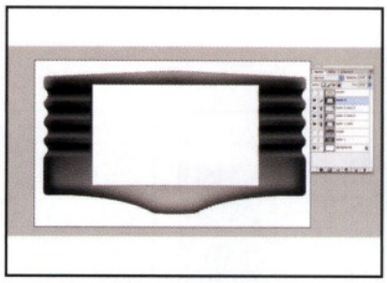


10 It's time to start work on the screen. Create a new layer, and fill a rectangle with a dull green for the LCD – R:94, G:8, B:87. Name this layer 'screen', and load it as a selection if it isn't already.

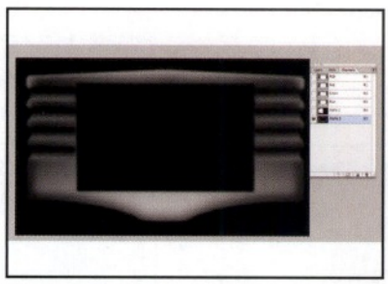


11 Create a composite layer from the two shapes (see the 'Composite layers' margin note), and cut out the shape of the screen. Create a new layer (Layer 2), and draw a rectangle. Trim it to the shape of the interface, and fill with a linear gradient.

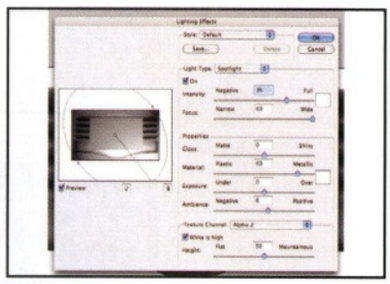
12 Load the selection from the shape to protect the edges, and with the rectangle layer (Layer 2) selected choose Filter > Blur > Gaussian Blur. Add a 22-pixel blur to blend the gradient smoothly into the interface. The settings you use may vary.



13 Duplicate the groove three times, and position these down the left side. Merge the groove layers together. Duplicate, flip and position the groove gradients to add grooves to the right side of the shape. Create a composite layer, select it and copy it to the clipboard.



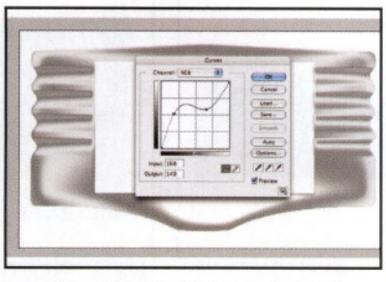
14 Create a new alpha channel, and paste the shape of the body into the channel. Deselect, and add a Gaussian Blur – around 5-10 pixels should do it. You're now creating a bump map to add even more depth to the interface shape. Click RGB to display all the channels.



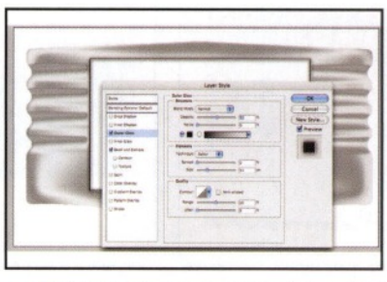
15 Go back to the Layers palette, and choose the layer with the composite shape on it. Choose Filter > Render > Lighting Effects. Adjust the shape of the light as shown, and adjust the settings. Load in Alpha 2 from the Texture Channel dropdown. It will all come to life now – click OK.

Part 2: Making the interface area

Now that we've finished with the body, it's time to create the screen and buttons...



1 You can add extra depth to the shape, and make it look more shiny, with a curves adjustment. Choose Image > Adjustments > Curves, and drag the curves as shown (or whatever suits your taste). Now repeat, and adjust the curves once again. Here, we've chosen a metallic look.



2 First, make a border around the interface. Load a selection in the shape of the rectangle. Create a new layer and choose Select > Modify > Border 20 pixels. Fill with a grey gradient, and add Bevel and Outer Glow layer styles.

3 Show the screen layer, and adjust it so that the border is on top, the body below it and the screen below that. Add a little contrast to the body by selecting the layer and choosing Image > Adjustments > Hue/Saturation. Click on the Colorize option, and adjust the sliders as shown.

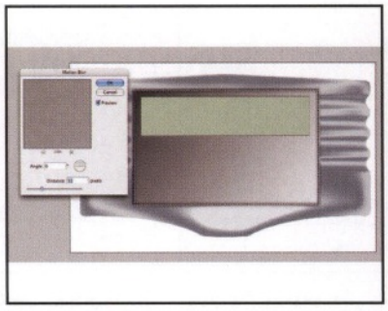
Making the interface area continued...

Brushed metal

You can create a realistic brushed metal effect by choosing Filter > Noise > Add Noise. Add enough noise to produce a fine grain, but don't overdo it and 'snow out' your image. Choose Filter > Blur > Motion Blur. Set the angle to 0 for a brushed look.

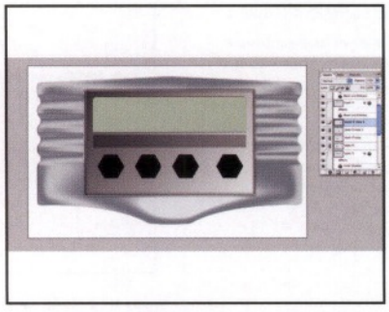
Rasterising text

You can't blur or otherwise affect the pixels on a vector text layer; the text must first be converted to bitmapped pixels. Right-click on the text layer, and choose Rasterize Layer from the pop-up menu that appears.

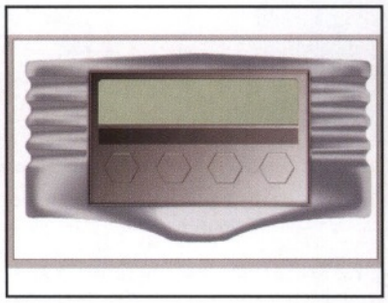


4 Choose the screen layer. Make a rectangular selection across the top, and press Ctrl/Command+J to copy the selected portion to a new layer. Click down a layer, and fill the original screen layer with a grey gradient. Add a brushed metal effect (see the 'Brushed metal' margin note).

5 Make a selection in the shape of the volume slider (a thin rectangle below the screen). Press Ctrl/Command+J to copy the selection to a new layer. Add an Inner Shadow layer style to give the slider a recessed appearance. Also add the layer style to the screen. Use the Hue/Saturation dialog to darken the slider slightly.

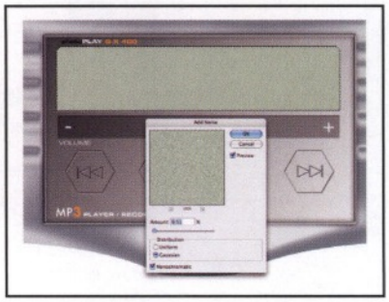


6 Create some Hexagonal buttons by choosing the Polygon shape tool, and entering 6 into the 'sides' field in the options bar. Duplicate the shape three times, and position the shapes. Link the layers, and click on Distribute Horizontal in the options bar to evenly space the buttons.

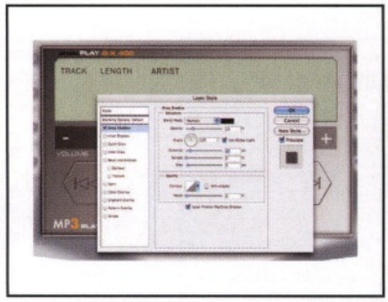


7 Merge the buttons on to a single layer. Ctrl/Command+click on the Layer thumbnail to load the selections of the buttons. Hide the buttons, and choose the brushed metal 'screen' layer. Press Ctrl/Command+J to copy a selection of the buttons to a new layer. Add a Bevel layer style, and choose Pillow Emboss option in the dialog.

8 Create some icons to label the buttons (the custom shapes can be found in the iface.csh file on the cover DVD). Cut them out by making a selection and pressing the delete key on the button layers. You can also add some text to the interface for effect.

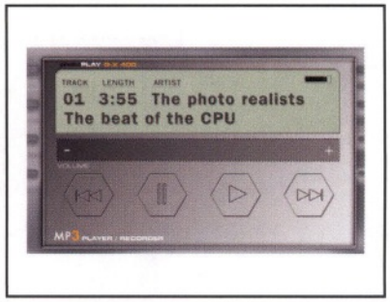


9 Next, add some realism to the screen – a bit of noise will make the LCD look better. Choose the screen layer. Load the selection from the screen, and choose Filter > Noise > Add Noise. Choose Gaussian, and tick the Monochromatic box. A setting of around 9% works well.



10 Begin to add text for the display. Don't make it completely black, or it'll look fake; drop the opacity down to about 90%. Also add a faint drop shadow effect to the text with the opacity kept low – no more than 20 per cent.

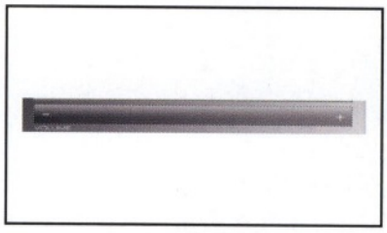
11 You can make the large writing look like it's made of small blocks. Create a grid pattern, create a new document at 10x10 pixels and make a 1-pixel stroke. Use Ctrl/Command+I to invert. Select all and choose Edit > Define Pattern. Choose a new layer, and fill it with the grid pattern.



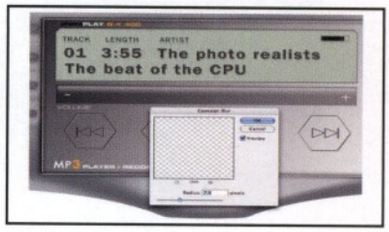
12 Use the Magic Wand Tool to select all the blocks from the grid, and choose the type layer. Press delete to cut out the blocks. (Note that you'll have to rasterise the text first – see the 'Rasterising text' margin note.)

Be patient

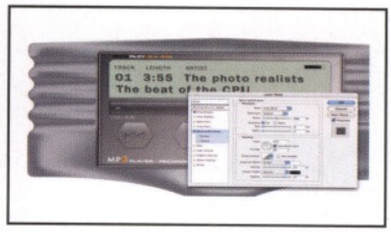
If you want to create convincing photorealistic works one of your best allies is patience. You don't have to finish an image all in a single sitting, so if something isn't working, you can always delete it and try again. Pay special attention to your initial shapes, because these will set the stage for your entire image, and are difficult to change later.



13 Now add some depth to the volume slider. Choose its layer and make a selection. Create a new layer, and apply a white-to-transparent gradient, starting from the top to about halfway down the shape.



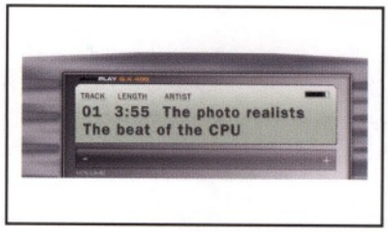
14 Press Ctrl/Command+T to enable the Free Transform marquee. Drag the corners in a few pixels to contract the size of the gradient. Deselect, then choose Filters > Blur > Gaussian Blur, and add just enough blur to spread the edges and add the illusion of depth to the gradient.



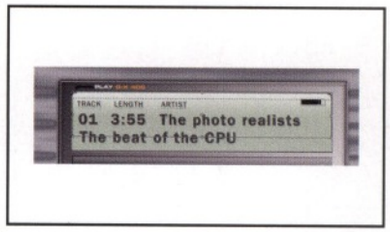
15 Now you can jazz up the buttons a bit – the Pillow Emboss is starting to look a bit boring. Double-click on the word Effects on the buttons layer in the Layers palette to open the Styles dialog box. Change the bevel to an Inner Bevel, and add a drop shadow. That's much better!

Part 3: Adding a realistic reflection

Now we'll add a photorealistic reflection to the screen...



1 Load a selection of the screen. Create a new layer, and choose white as your foreground colour. Draw a foreground to transparent Linear Gradient – start the gradient about an inch above the selection, and drag it three-quarters of the way to the bottom of the selection.

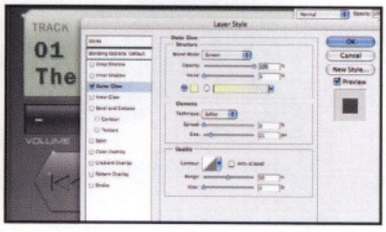


2 Choose Ctrl/Command+T to activate Free Transform, drag the two sides in a little and pull the top down slightly until it's an equal distance from the edges. You may need to pull the bottom up a little to match the above screenshot. Hit the Enter key to apply the transformation.

3 Turn off the selection, and apply a small Gaussian Blur. Eyeball this so that the blur spreads the edges so they're just touching the sides of the screen. This gives a curved appearance. Create a large oval, and press delete to cut an arc from the bottom of the reflection.

Part 4: Final touches

We'll add a few finishing touches to make things really pop with realism...



1 Create a few glints to make the highlights pop – you'll be surprised at how much realism this adds. Create a new layer, and choose a soft white brush. Enable the airbrush option, and add a little dab here and there. Add an Outer Glow layer style for more realism.

2 Create a new layer, and lightly airbrush with black to bring out the shadows. Think about the light source coming from the top, and darken the areas that would be shaded from the light. Add a Gaussian Blur, and lower the opacity to blend smoothly. Repeat with white for the highlights.

3 To finalise the image and add a little variation, you could create a Curves adjustment layer and darken the body a bit more. You could also create a new Hue/Saturation adjustment layer, and add a blue colour to the MP3 player to break the monotony of the grey. ■

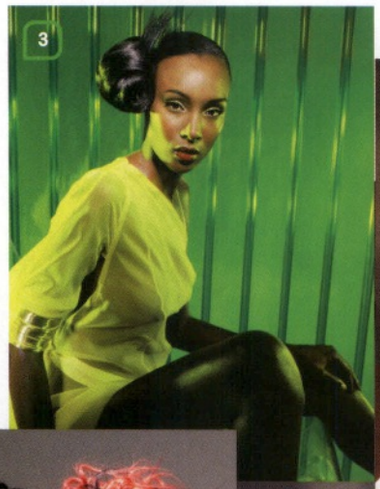
Photoshop File Edit Image Layer Select Filter View Window Help
Navigator
Color
History
Actions
Deselect
Invert
Layers
Channels
RGB
Red
Green
Blue
Alpha 1

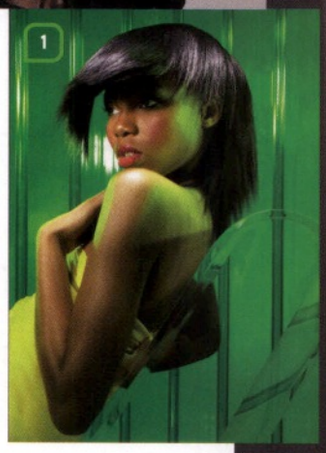
2

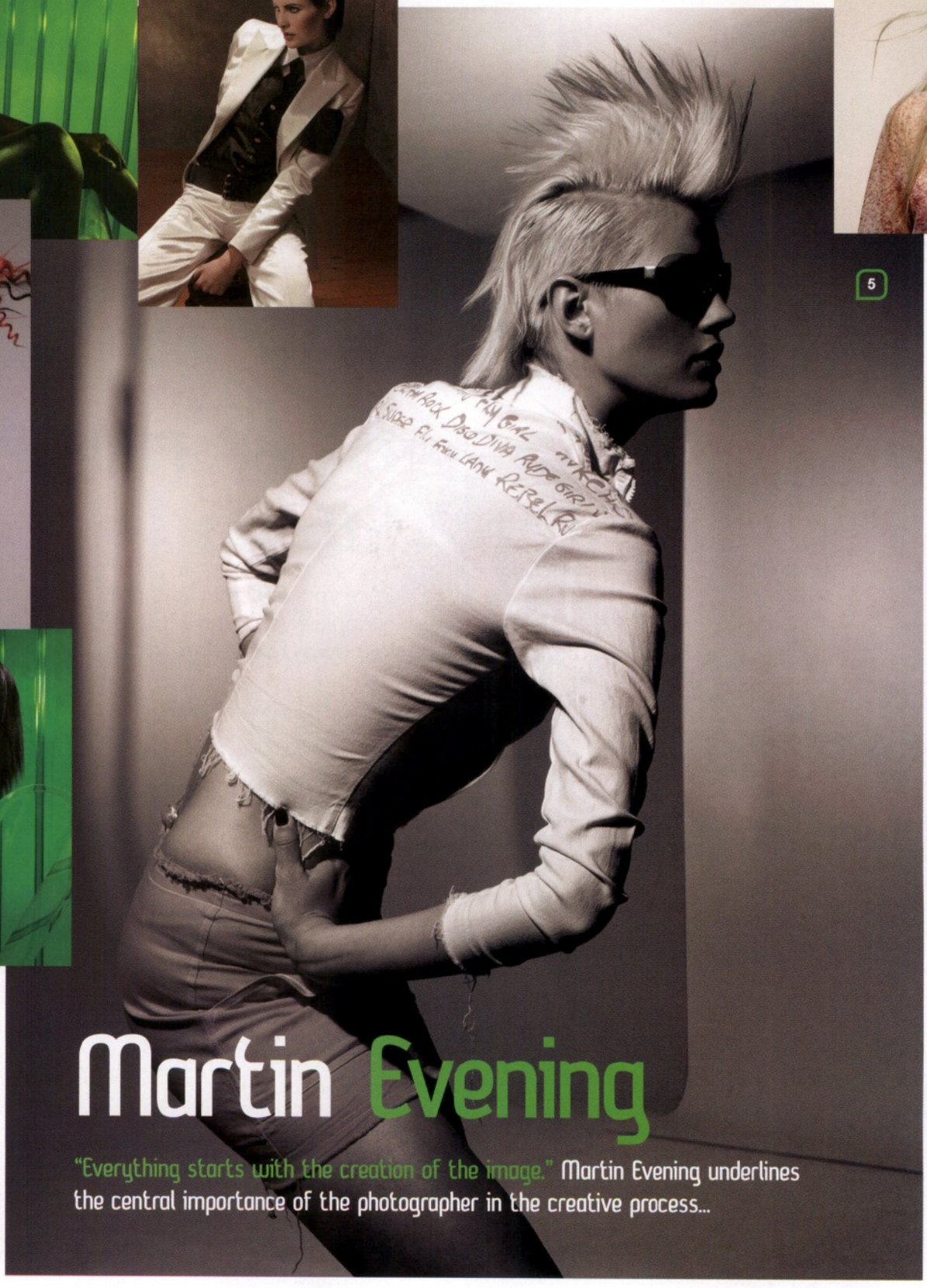
Expert Photoshop Effects

Once you've practiced these techniques following our examples, you'll have the confidence to use them in your own creative image manipulation projects…

68	Profile: Martin Evening
70	(Don't fear) the filter
76	60 Photoshop Filter Tips
84	Filters: Blurred vision
90	Age your images
96	Halftone and bitmap effects
102	Dynamic lighting
108	Burn effectsr
112	Advanced Brush Tool effects
118	Textured brushes
122	Distort with style
128	Decay effects
134	Water effects

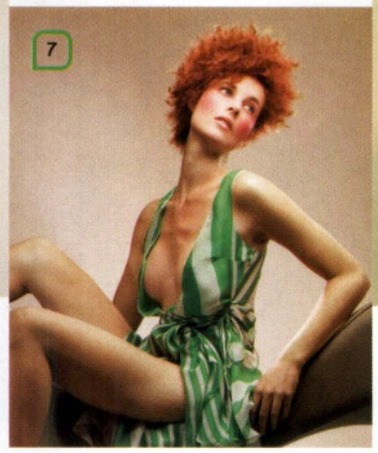


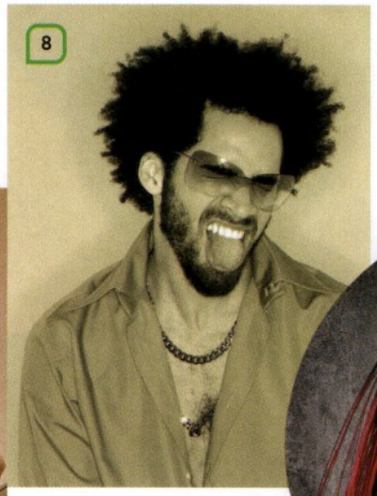




Martin Evening

"Everything starts with the creation of the image." Martin Evening underlines the central importance of the photographer in the creative process...





1, 3 & 4. Martin now shoots most of his work digitally, as with these images for Errol Douglas at the British Hair Awards. "If there is a hot issue for me right now," he says, "it's the lack of a standard RAW camera file format. It's a crazy situation." The move away from film is less than smooth.

2 & 9. These images for the JFK salon in Edinburgh show off Martin's skills. "The face retouching is critical," he says. "But I don't believe in making women look like Barbie dolls." As a result, he usually fades the skin tone work back by as much as 80%.

5. Martin's well known for his hair work, which makes him a logical choice for product giants such as Schwarzkopf when a photoshoot is called for. His secret: "The trick is to leave enough strays and errant hairs to make the hair look good, but natural."

6 & 7. The Glasgow salon, Rainbow Room, is a regular client for Martin, and these images are culled from his work on their last two collections. A regular shoot, with the aim of getting less than ten final images, will usually turn in more than 500 originals.

8. Photography is a competitive business, and you need skills to deploy when you're away from the lens, as Martin explains: "It probably comes as a big surprise to many photographers just how much they're being judged on themselves as a person, rather than the quality of the pictures they shoot." This image was taken for the Anita Cox salon in London.

10. Martin's advertising work is on the up, as this piece for the BBDO agency shows: "The image was designed to convey the message of what it would be like to be a fish breathing water polluted by acid rain in which the oxygen levels are depleted."

11. Among his portrait work, Martin has photographed dub legend Lee 'Scratch' Perry for *Zig Zag* magazine. "He performed silently, and I just carried on shooting." Martin recalls that, "at one point he picked up one of my 2K heads, wrapped the live cable around his neck and chewed on it!".

As the author of the *Photoshop for Photographers* series, and one of London's leading hair and fashion photographers, Martin Evening neatly bridges the gap between image generation and manipulation.

Blending these two disciplines has helped Martin develop his client base to include some of the UK's top hair salons, such as Errol Douglas and Glasgow's Rainbow Room, alongside international names such as Schwarzkopf. "Enterprising photographers," he says, "realise that digital technology offers them the opportunity to provide more services than they did before, and maybe manage more of the creative process as a whole".

When he finished studying photography at college in Salisbury, all he wanted to do was go to London and become an assistant. This turns out to have been a good plan: "The first day I arrived in London I met a fashion photographer," he explains, "and a few days later I had a day's trial assisting on a hairdressing shoot for Toni & Guy".

Following this try-out, Martin landed a full-time position and, looking back, he sees the hand of fate at work: "Based on what happened in those few days, my entire career path was decided," he says. "I've gone on to become established as one of the leading hair photographers in the UK."

The right style

As with most young artists, Martin began to think about style early on in his career: "I tried hard to find a style, but could never pinpoint what it was," he says. Then, one day, there it was: a style of his own. Martin explains it like this: "I understand better now – it comes from years of experience, it's something quite instinctive." In other words, style is something to be grown into, rather than consciously developed. "I bring to each job an accumulation of everything that went before," he adds.

In this picture, the technology comes second: "Don't let yourself get too hung up on the equipment – the camera is just there to record what you're seeing." It's a technical subject, there's no mistaking that, but, Martin says, "however techie you want to get when you shoot, keep within your limits, and don't let yourself get too distracted". Keep the technical stuff to a level you can easily manage because, Martin warns, "the best shots will happen when you're fully alert to the subject you are photographing".

Going digital

"Shooting digital is *so* different from shooting film," says Martin, adding that the photography business has changed a lot in the last few years: "Less photography is commissioned directly and more is bought via picture libraries. Some sectors of the photo industry have gone totally digital, and if you don't shoot digitally, you don't get the work."

"I would say the toughest aspect of working digitally," says Martin, "isn't colour management but image management". The freedom which digital capture offers in terms of its immediacy means that a huge number of shots will be taken, and "there isn't always time on a shoot to stop, sit down with the client and analyse the 500-plus shots I take". Typically, these will be whittled down to between six and eight, so the process has to be tightly regimented.

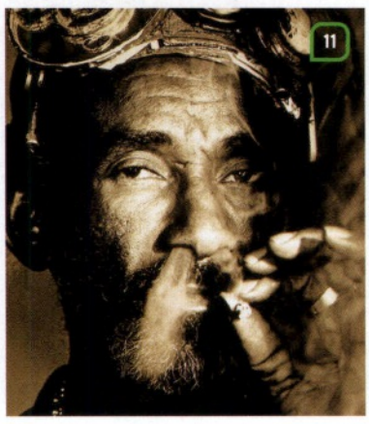
Raw pixels

Martin begins to outline his working routine: "I like to shoot digitally with the Canon EOS 1Ds. I will carefully set up the exposure tests to be as bright as possible. I don't rely on the camera histogram, as this is a false indication of what the raw file exposure is really like. The camera histogram is based on an internally processed JPEG, and not the true raw data." To Martin's way of thinking, you clearly have to know when to draw on the technical and when to step on it. In other words, be flexible.

Martin favours a minimal intervention policy when it comes to digital manipulation, saying: "I think one can sometimes get a little too lost in trying to make an image look different, unless your approach is properly thought through beforehand."

Despite his obvious technical ability, Martin believes some of the most important photographic skills don't involve focal lengths and technical gadgetry at all. "I think it's probably less about the lighting and more about being able to work well with your subjects," he explains. "You have to put them at ease, and have the right instinct of where to place the camera." After all, it all starts with the image. ■

To see more of Martin's fashion and portrait photography, visit **www.martinevening.com**.



The birth of the waste painting

"Waste paintings evolved from the digital experiments we were doing in the search for something to stop us in our tracks," says Howard Wakefield, who, as Design Director at Saville Associates, played a major role in the creation of the waste painting.

"We started experimenting because we didn't want to have to rely on photography or illustration to source an image," he says. The paintings rely on a secret combination of filtering techniques to recycle yesterday's pixels into entirely new artworks. As Wakefield explains, "The filters gave us infinite directions to explore..."

Settling on the Filter menu as the engine for their experiments, Wakefield and the creative team at Saville Associates began to develop their ideas. There was more than a little effort involved, but they had sensed something important, and weren't about to let it slip away.

The development of the waste painting concept took some long hours ("I just noticed that the time on one of them is 3.07am"), but that was unavoidable. "If you simply use a filter, it will look just like you've used a filter!" says Wakefield. "You need to work with them to move them away from what comes 'out of the tin'." It stands to reason really: "You cannot simply press a button to create something special."

(Don't fear) the filter

In recent years, Photoshop filters have developed a bit of an image problem. Now, thanks to the growing sophistication of the digital arts, the time may be ripe for their rehabilitation...

It wasn't always the case that the use of a *Photoshop* filter would earn you nothing but a knowing sneer from your audience. There was a time when the application of a *Kai's Power Tool* would actually cause onlookers' jaws to drop in honest amazement.

Nowadays, though, the majority of digital artists don't like to be caught hanging around anywhere near the Filter menu; it's become something of a guilty secret. But if they're pushed, most will admit to being regular filter users, usually starting with Gaussian Blur, but often progressing to the harder stuff. The question that needs addressing is: can filters be used responsibly?

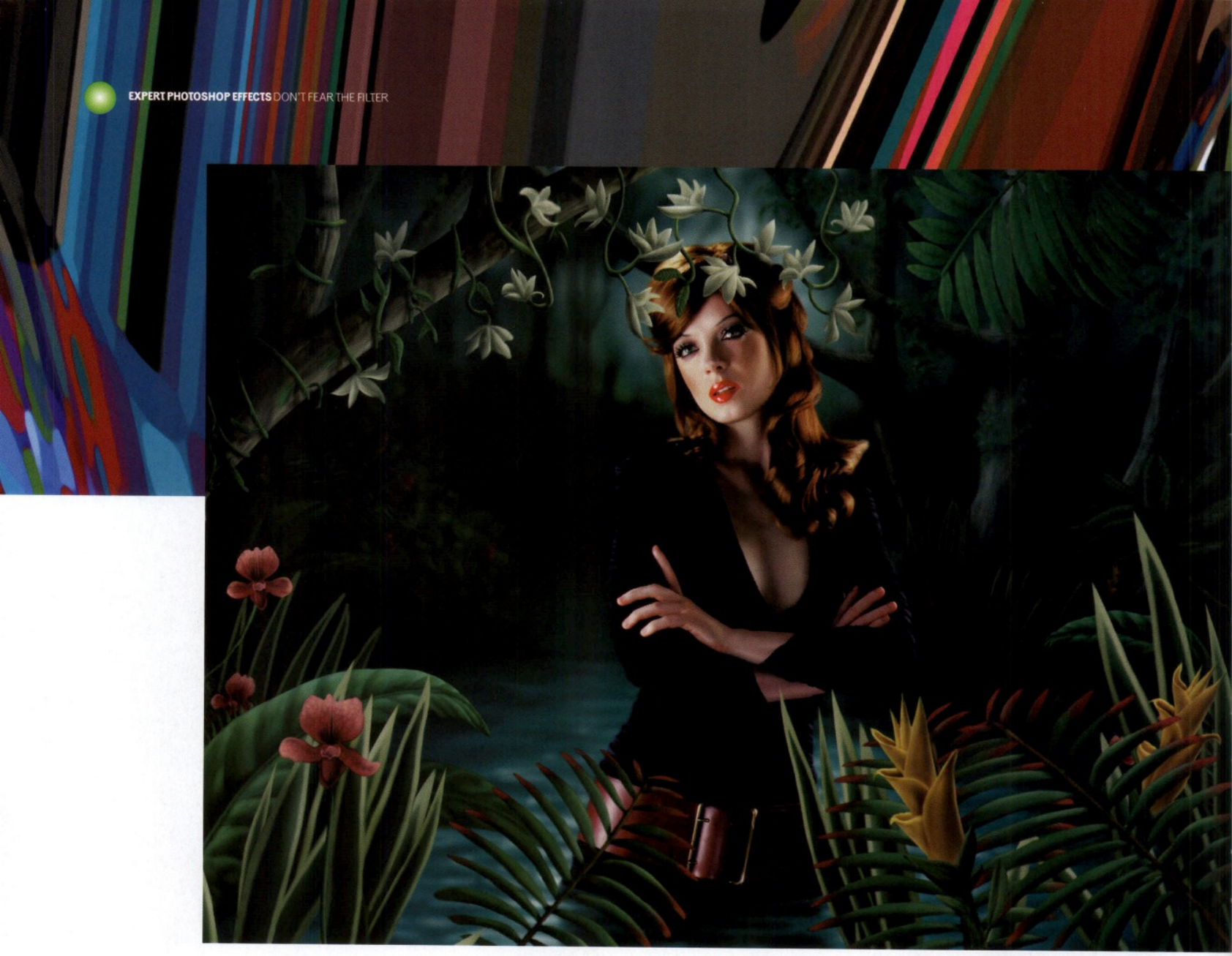
The problem

"When computers burst on to the scene, it was all about *Photoshop* filters and digital illustrations," says Henry Obasi, an illustrator who's proud of his practical skills, — of his craft. Henry believes the early years of the digital revolution relied more heavily on the Filter menu: "It's like when artists discovered the Twirl filter years ago," he says, taking an example we're all familiar with. "Every illustration and its mother was twirled under the notion of 'Damn, this shit looks cool! Look at what it does to the pictures!'."

"Lens Flare is classically overused — it has been since it came out really," says Antony Crossfield, Creative Director at London's top retouching studio, Metro Imaging. "It's such an easy thing to do," he says, adding that the problem starts because "people think it's a quick way to improve an image". However, this belief is subject to erosion over time, he adds: "There's just not enough variation — the more you see it, the easier it is to notice." Eventually, every time you see that Lens Flare you downgrade your opinion of the image that contains it, just because you know how it was done.

Illustrator John McFaul identifies the root cause of the problem. "Among the students I teach, 50 per cent of them just want instant results," he says. In essence, it's the perfectly natural desire for a quick solution that leads to an incautious rush to the Filter menu.

"You need to take a bit more time," says John, who's own approach to digital illustration draws on traditional techniques and intuitions. "Take the chance to open doors on new things. Maybe even get away from the computer for a bit..." he advises. The reaction to, and subsequent move away from using *Photoshop* filters is understandable as >



part of our growing digital sophistication. "It's about progress," says Henry Obasi.

Away from the computer

People were involved in disciplines such as photography, illustration and design long before the arrival of computers. In fact, the computer is still a relatively recent addition to the tools used for these disciplines – so much so that the digital world is just starting to make ground on the processes that analogue production invented.

> "Everything you do in Photoshop that changes an image is filtering" **Harald Heim**

John McFaul has a background in traditional media, and says: "Process is too important to me to readily accept a quick fix." His belief in the importance of process is echoed throughout the digital arts. "You've got to get your hands dirty," says Obasi, going on to explain that you have to create images using inks, paints, oils or whatever you can find in order to truly appreciate the power that filters offer you as a graphic artist.

The right stuff

"In a broader sense, everything you do in *Photoshop* that changes an image is filtering," says Harald Heim, of The Plugin Site. An obvious cheerleader for the Filter menu, he continues, "Taking that idea to its natural conclusion means purists would have to return to analog photography." Harald has a point, but what the 'purists' are advocating is a return to process, to craft.

"Illustration has been going from strength to strength in recent time," says McFaul, who reckons the problem isn't just filters themselves, but a general rise in illustration standards. He continues: "So, if you're relying on filters, then your work will look crude by comparison." The same is true in the world of high-end retouching. "Half the skill is to make it look like it wasn't used at all," says Antony Crossfield. "That's the guiding principle behind all the work we do."

This isn't a ban on filters, far from it: "They're a neat way to get things going quickly," says Crossfield. "But again, the main thing is to cover your tracks." The retouching business is clearly never going to endorse the heavy use of artistic filters, but everything has its place: "There is potential in there – you just have to learn how to use them effectively."

Where and when

"The use of a filter is justified if it adds to the final image, but not when it's simply used with a 'because we can' attitude," says Terry Steeley, designer, photographer and

Photoshop maestro. McFaul takes a similar position when he says, "The idea is first and foremost; the thing to avoid is looking like you have a filter that has some artwork attached to it."

So, the consensus seems to be that while it's not a good idea to use *Photoshop* filters as a substitute for creativity, as part of a solution they could be the perfect tool. "You have to treat it as something that needs exploring. Don't let it dictate," says McFaul. Crossfield agrees, adding: "You can use them to get somewhere, but not as an end in themselves."

Steeley says: "Good use is seldom the standard use of the filters without additional refinements." Heeding this advice, the central task is to rein in the power of filter effects so that they don't dominate the work they're in. This power was what made them so immediately attractive; it's also what made them so quickly familiar, and now it's what makes them difficult to rehabilitate. >

Plug-in comeback

As the number and quality of new plug-ins continues to grow, could these give the Filter menu a new lease of life?

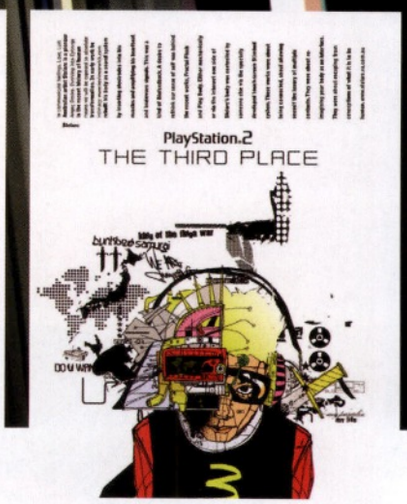
Harald Heim has been developing plug-ins since 1997, contributing to the steady stream of new software that's expanding the range of effects available to *Photoshop* users. "I would say that the golden age has just started," says Heim. "There are more than 200 companies and independent developers creating *Photoshop* plug-ins."

With new options coming on stream all the time, the problem of overexposure could be a thing of the past. "Filters are getting more sophisticated and plug-ins are getting more and more professional," says Heim. If he's right on this score then these new tools should be capable of the kind of subtlety that professional users insist upon.

The overuse of obvious or 'crazy' filters did much to damage the reputation of filters in general, but, according to Heim, that's no longer a problem: "The experimental and weird plug-ins that were created in the 1990s are more or less forgotten now." There could well be a renaissance on the way.

Far-left and right: Though filters are used in the work which Metro Imaging produces, they are never used as an end in themselves. "Half the skill is to make it look like it wasn't used. That's the guiding principle," says Creative Director Antony Crossfield.

Above-centre: "You have got to know about the craft of picture making," says illustrator Henry Obasi, who's convinced the problem with filters is often that they're too powerful. "You've got to get your hands dirty creating images using inks, paints, oils and so on in order to truly appreciate the power filters offer you."



Above, from left to right:

This charming little fellow was bottled by Metro Imaging, proving that even when the subject matter gets surreal, there's still no excuse for over-filtering.

"At the moment, there's a trend for advertising companies to commission less-obviously digitally produced work, so naturally the knock-on effect will be that less 'filtered' illustrations will be used," says Henry Obasi.

John McFaul worries that filters can hijack the creative process if used indiscriminately: "Process is very important to me," he explains. "I just don't want to accept that a filter offers a quick result."

McFaul, in common with most professional *Photoshop* users, bemoans the lack of time for experimentation. "You have to treat it as something that needs exploring," says John. "Don't let it dictate."

Plug-in potential

"There is potential in there – you just have to learn how to use them," says Crossfield, highlighting the central issue: the filters themselves have done nothing wrong, it's their inexpert use that has caused them to fall out of favour. Because of their obvious power, and the extremity of their action on your pixels, you have to learn to use them with a light touch.

Steeley echoes Crossfield in believing that filters will make a comeback: "I'm sure there's loads of potential, now that *Photoshop* has the new Filter Gallery, enabling users to see how different combinations of filters and settings will appear." This development suggests that Adobe itself is aware of a need to finesse its filters.

Henry Obasi takes a similar line: "Interaction between the various filters can produce an infinite number of permutations and results, so of course there's potential there." The job of the artist is to realise that potential. "Many may be bad, many may be good, but for the artist this can only be good in the long run."

Even Crossfield, the most dedicated retoucher, is willing to say a kind word: "Plastic Wrap is kind of tacky, but I like it. It looks a bit like being covered in dribble." We get the picture. The basic message seems to be that these are powerful items, and if you want to avoid ending up like Mickey Mouse in *The Sorcerer's Apprentice*, you need to claw back the integrity of your image every time you use a filter.

Rediscovery

So what's inhibiting the re-adoption of the filter? Howard Wakefield of Saville Associates, one of the figures behind the development of Peter Saville's waste paintings, has an idea: "When do you have the time to play and experiment?" he asks.

By common consent, this is something you need plenty of time for, even if you only want a basic grasp of the possibilities. But, as Howard says: "There's always a deadline that needs priority, so taking the time to explore the possibilities of a filter is a luxury."

Those filters that work as shortcuts remain in use, but the exploration of their creative potential isn't something a jobbing illustrator has too much time for. "Over the last few weeks I've probably used most of them," says John McFaul, "but I know what's going to work."

But does this mean that you can't touch the Filter menu till you've become old and wise? "You don't necessarily need years of experience. You just have to be willing to challenge yourself," says McFaul. Obasi puts it very neatly: "There are no rules, it's simply about whether they help you create a good piece of work." ■

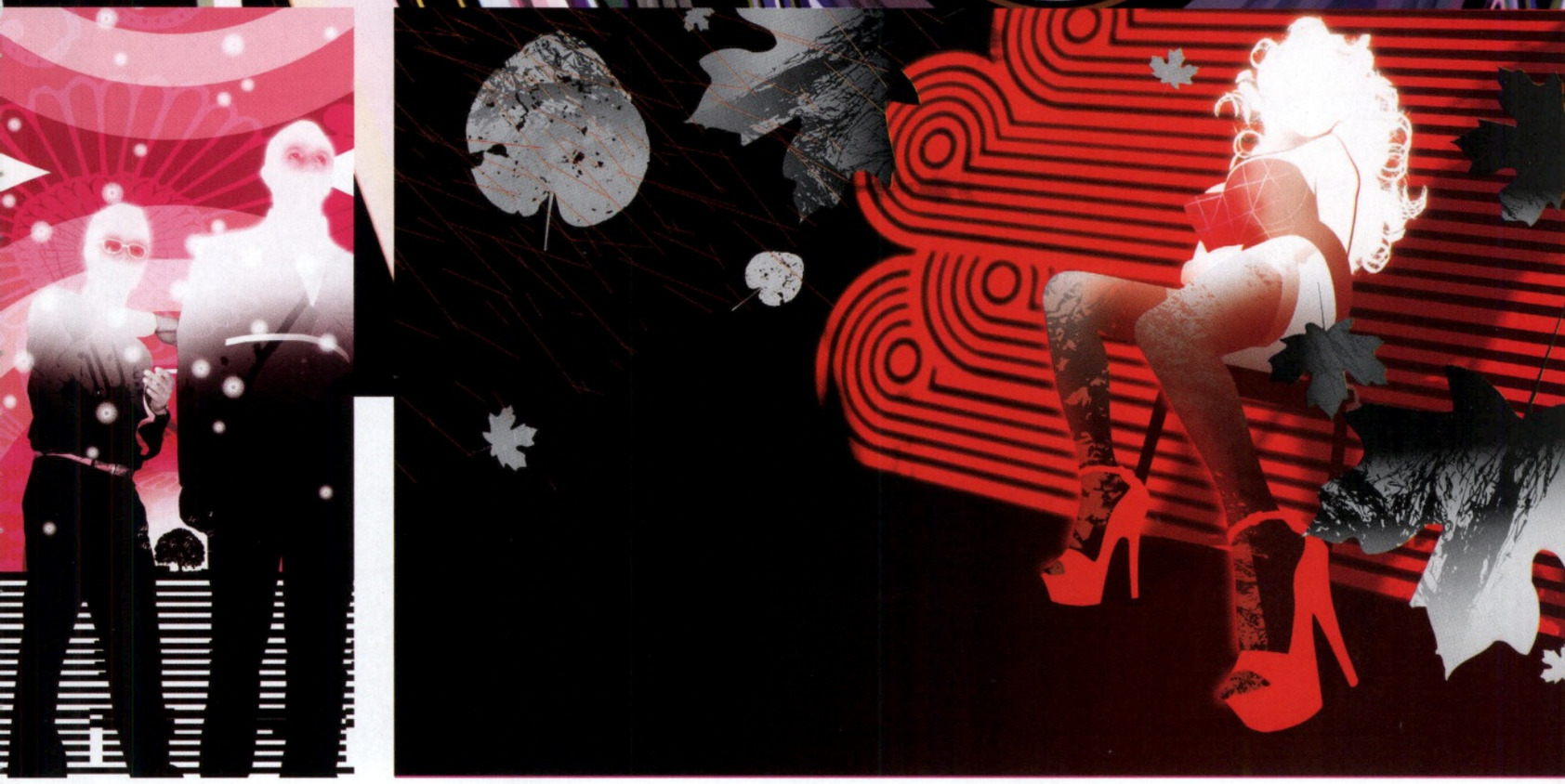
Before and after

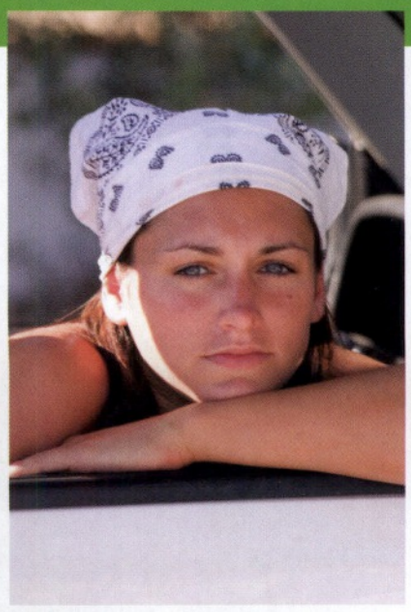
Photoshop expert Terry Steeley puts the Filter menu through its paces...

"Inexperienced *Photoshop* users frequently apply loads of filters without too much thought, drop shadows, lighting effects and 3D bevel and emboss being amongst the most popular," says Steeley – and that's the classic mistake as far as he's concerned. As an acknowledged expert, Terry spends a lot of time teaching people how to get the best from Adobe's flagship application.

Terry agrees that one of the main problems with filters is frequently their overexposure: "Only too often you can spot the new filters," he says, "because printed publications are full of similar effects at the same time." Very often this is something that's the result of time constraints – tight deadlines just don't leave designers free to experiment with effects.

"I wouldn't use Mosaic Tiles," says Terry, but that's the only filter he won't go into bat for. "Other than that I've not experimented with all of them, so it would be unfair to say." Experimentation seems to be a recurring theme here, and even an educator with years of experience is willing to admit that there's still uncharted territory in the Filter menu.





Terry Steeley is a designer, photographer and acknowledged *Photoshop* expert who thinks that too many people use filters without enough thought. "Drop shadows, lighting effects and 3D bevel and emboss are amongst the most popular," he says.

Steeley makes the distinction between creative and production filters, the latter being more commonly used without attracting criticism. "For production, I do use the Blur filters, Unsharp Mask, High Pass and Find Edges regularly." Here he uses a creative watercolour effect.

"If you're using an effect by simply applying it in isolation, without straying far from the default settings, it's very obvious," says Steeley. "Good use is seldom the application of the filters without making additional refinements." Steeley's watercolour experiments demonstrate what is meant by a light touch.

60 PHOTOSHOP FILTER TIPS

Photoshop's filters have become more sophisticated with every new release of the software. Using Photoshop CS, we show you some essential techniques for using filters in your illustrations...

Photoshop's filters can be an invaluable resource for any illustrator or designer. One of their greatest advantages is that they enable you to quickly create effects that would normally take ages to produce using conventional methods, or even other tools in *Photoshop*. However, one of the great disadvantages of filters is that the results are so recognisable as filter effects. You know the classic cases: too much Lens Flare, dodgy rendered clouds, too much drop shadow and the overuse of ZigZag for ripple effects.

On the following pages, you'll find 60 tips for using filters more creatively. The subjects we cover include colour correction, 3D effects, how to make your images more toon-like and retro, and how to get more out of the Liquify filter. We've also included a few techniques that don't involve filters, but which affect images in a similar way to a filter.

Words by Jason Cook **www.jc@jacey.com**.
Illustration by Nessim Higson **www.iamalwayshungry.com**.

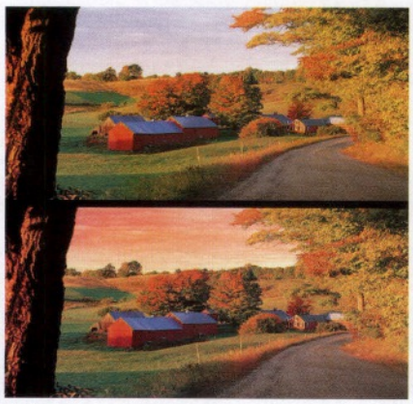
LIQUIFY AND EXTRACT TIPS

1 Say no to ZigZag

Use the Clockwise Twirl Tool, or hold down Alt to switch to anti-clockwise mode, to twist pixels in those directions. A larger brush works well with this tool. Use the Twirl Tool instead of the ZigZag filter or Swirl filter to create subtle and more controllable effects.

2 Sky colouring

The Extract filter can help with colour correction. Here we've isolated the blue sky from the autumn landscape and, using the Highlight Tool set to a small brush size, drawn around the sky where it meets the trees and horizon. Having done that, we used the Color Balance command to give the sky a warm feel. Before you do this, it's best to duplicate the original image as a second layer and then, when you've applied the Extract filter, you can amend the sky so it sits over the original layer.



You can change the colour of the sky to match the hues in the rest of the image.

TIP TO REMEMBER

3 Paint smudge

This is one of the stock images supplied on the *Photoshop CS* CD, in the Goodies section; using the Liquify filter, you can easily simulate the paint daubs being pushed by the brush. Select the Warp Tool, give the brush size the same pixel dimensions as the brush on the image, and set the Density to 100 per cent to simulate a brush being pressed hard on to a palette. Here the effect has been applied to the red and white daubs.

The Liquify filter can be used to simulate paint being smeared on a canvas or palette.

4 Smart Highlighting

This Extract option keeps the highlighting on the edge, so you can use it when the foreground and background edges are of similar colours. Smart Highlighting enables you to apply the minimum amount of paint necessary to cover edges.

5 Flaming distortions

Create a black background and paint a line with a soft edge in yellow, then paint an orange line on top of the stroke and offset it slightly. Open the Liquify filter, and use the Warp Tool to push and pull flames from the two paint strokes. The Warp Tool blends the two colours together.

6 Distorted faces

Making caricatures is easy using the Liquify filter tools. In the 1970s, Ralph Steadman used to scratch and engrave on polaroids to make satirical caricatures of the famous. Now you can do this with the Liquify filter. Try elongating someone's nose with the Warp Tool, or use the Bloat Tool to enlarge their eyes.

7 iPod madness

Here we've recreated the iPod adverts using the Extract filter. Use the Highlight Tool to draw around the man, then use the Fill Tool to fill in the element to generate a mask. Click OK. Then use the 'lock transparency layer' feature in the Layers palette to fill in the foreground and the background with different colours.

Create colourful silhouette effects using the Extract filter's Highlight Tool and 'lock transparency layer' option.

8 Depth of field

If you've got a vase of flowers on a table in the foreground of an image, and the rest of the room in the background, duplicate the layer, open the top layer in the Extract filter dialog, and isolate the vase and flowers. Click OK, and Gaussian Blur the bottom layer to give the illusion of depth of field. Clone out the vase and flowers in the layer you're blurring so you don't get a halo effect around the extracted part.

9 Twirly clouds

Here you can see how the Liquify Tool's great for generating whimsical clouds. Use a combination of the Twirl and Bloat tools to spread the edges of the white airbrush strokes, and then use the Warp Tool to push the edges, giving a feathered effect to the clouds.

Create swirling cloud effects with fluid airbrush strokes and Warp Tool touches.

10 Basic extraction

The Extract filter is designed for isolating a foreground object from the background, and can be used to make sophisticated selections. Use it for intricate, hard-to-define edges, as it can be much quicker than using the Pen Tool and trying to create complicated clipping paths. When you paint around the edge of an object with the Brush tool, the edge loses its colour parts, which are part of the original background. The Extract filter helps you to blend a new background without having the halo effect of the original background.

COLOUR TIPS

TIP TO REMEMBER 8

The new Solarise

Forget about using the Solarise filter; instead try using the Gradient Map command under Image > Adjustments. Click on the dropdown menu to see your installed gradients, and create new ones if necessary. See how applying a muted warm gradient gives you a great-looking solarised effect.

Achieve a dramatic solarised effect by applying a muted warm gradient as a gradient map.

1 Photo Filter

Found under Image > Adjustments > Photo Filter, these options save you having to fiddle with Color Balance or Hue/Saturation. The options replicate the effect of putting a coloured filter in front of a camera. If you're working with a portrait shot of a figure, and its overall colour cast and tone is cool, you can select one of the warm filters from the Photo Filter dropdown to soften the image.

2 Deepest shadows

The Shadow/Highlight command under Image > Adjustments is a speedy way of correcting an image. Don't mess around with levels to fix the dark and bright areas in an image – simply use this command to fix the problem. A good example of when you might use this option is if you had a figure silhouetted against a bright sky; Shadow/Highlight can bring back some detail in the figure. You could even try using it on a completed illustration – if it's gone too dark and murky in places, this option can bring some balance back to it.

3 Saturate instantly

A simple way to saturate an image is to make a duplicate layer, and, on the top layer, set the blending mode to Overlay. As with many things in *Photoshop*, there are a number of ways to intensify an image's colour, but this is one of the quickest. The left-hand side of this image has the Overlay effect applied; the right-hand side is the original image.

4 Selected greyscale

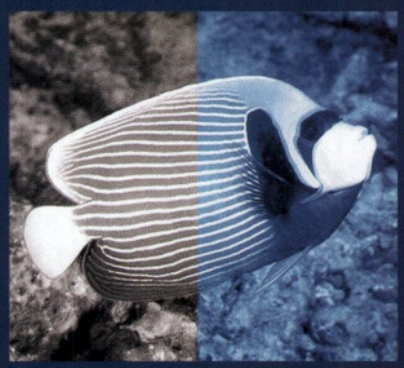
To isolate an object from its background, make the background greyscale and leave the foreground object in colour. Draw a path around the foreground object with the Pen Tool, ensuring that the 'Subtract from path area' options is selected. Then select Layer > New Adjustment Layer > Hue/Saturation, and use the Hue/Saturation dialog box to desaturate the background colour. The foreground colour will remain the same.

5 Halftoning

Convert an image to greyscale (Image > Mode > Grayscale), then convert it to bitmap mode, and explore the halftoning options. Find the desired effect and click OK. Now you can use Color Range to isolate and make a selection of the black or the white areas, and then overlay this image on the original one. Use Transparency Lock to fill in the selection with a colour, and then apply a blending mode to apply a patterned colour over the original image.

6 Controlled duotone

Rather than using the duotones option in *Photoshop*, use this method for a more visual way of applying a duotone to an image. Take an image and make it greyscale. Create a new layer and fill it with your desired colour, then reduce the layer's opacity to around 30 per cent and change the blending mode to Color or Soft Light. Now use the Hue/Saturation dialog to change the colour of this layer until you achieve the desired effect.



Take more control over the creation of duotone images by making them greyscale and filling them with colour.

7 Saturated softness

Take an image and duplicate the layer, set the blending mode to Overlay, reduce the Opacity to around 70 per cent and then apply a slight Gaussian Blur to the layer. This gives the overall image a soft, clean, saturated feel, and works wonders on illustrations that are starting to look a bit flat.

9 Pastel effects

Open a colour image, duplicate the layer and use the Channel Mixer dialog to create a contrasty black-and-white image. Then gradually lower the opacity of this layer to get the desired pastel effect in the overall image. This works well on skin tones if you want to give and image a weathered feeling. Again, try using a Gaussian Blur to soften it.

10 Red eye correction

Many portrait shots taken using a flash are spoiled by red eye. You can use the Color Replacement Tool to replace the red with a suitable eye colour, or you can create a new layer over the original image, zoom in on the eyes and paint a new colour over the red using a soft brush. You can then change the blending mode for this layer to Color.

RETRO TIPS

1 Quick pixel art

To generate a simple pixel art effect, go to Filter > Pixelate > Mosaic filter, then apply the Diffuse filter and use the Unsharp Mask to sharpen it. Create a new layer, and use the Line Tool to draw around the edges, switch off anti-aliasing, and apply the same filter you did for the previous layer.

Create a pixelated effect in your images quickly by using the Mosaic filter and a touch of the Line Tool.

2 Pretend vector art

This is an old favourite with many an illustrator. Use the Cutout filter to generate flat areas of colour. Once applied, experiment with the Diffuse filter in Stylize > Diffuse or Distort > Diffuse Glow, and then apply the Unsharp Mask filter. The simpler the image you use in terms of colour and texture, the better the result.

3 Graduated retro art

Take an image of someone and apply Threshold. Find the desired effect and click OK. Then apply the Diffuse filter and select Anisotropic. Then click OK and apply Unsharp Mask just to help make the image sharper. Now create a new layer over this layer, add a funky gradient and switch the blending mode to Hard Light.

Funky gradients can be used to add a retro 80s look to your portrait pictures.

TIP TO REMEMBER 3

4 Pretend 3D wireframe

Create a square document, and draw a grid in it using the Line Tool. Use the Ellipse Tool to make a circle selection, and use the Spherize filter to distort it. Copy your selection so it's on its own, and not part of the original grid background, then place it where you want within your image.

5 Keyline disintegration

Another cool retro look can be achieved with the Graphic Pen filter. Once applied, select the main body of colour and use a vibrant light gradient. While the selection is still highlighted, key stroke it with a one- or two-pixel stroke.

The Graphic Pen filter works best if the object you're applying it to is on a white background.

6 Diamond bling

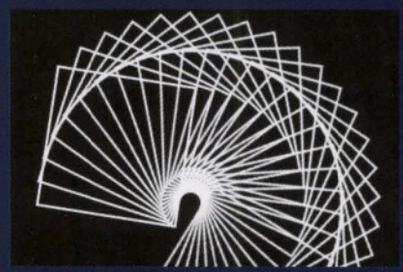
Want to create the type of diamond text you see on all the hip-hop and garage compilations these days? Create a word, and keep the selection active, then go to Filter > Distort > Glass. The scaling settings will depend on the size of your document, but select Tiny Lens from the Texture dropdown menu. Once that's done, create a 3D bevel stroke around the word. Hey presto – instant bling.

7 TV scanlines

Go to Edit > Define Pattern, and import a simple black-and-white horizontal stripe pattern. You can then use this to create an image such as a TV screen with horizontal scanlines. Once you've applied the pattern to the layer above the image layer, set the blending mode of the layer to Soft Light. You may also want to reduce the Opacity to create a more subtle effect.

8 Old skool electro art

Keyboard shortcuts can help you generate cool effects. Here we use a shortcut to generate an retro computer-generated spiral effect. Fill the background layer with black, and then create a new layer. Make a keylined square, duplicate it, then use the Transform command to slightly rotate it. Press Ctrl+Alt+Shift+T (Command+ Option+ Shift+T), and keep doing this until you achieve your spiral effect. Then merge all the newly generated layers into one to reduce the file size.



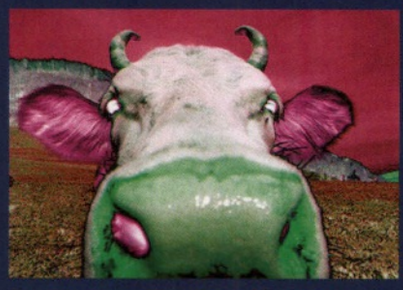
You can create an effect in seconds that the computers of the Seventies would have taken hours to generate.

9 More vectoring

Take an image of a face, and posterise it (Image > Adjustments > Posterize). Apply a slight Gaussian Blur, then apply the Unsharp Mask filter to sharpen the image and create vector-style artwork. You may want to use the Pen Tool to make selections, and add bits of colour to the rough edges to clean the image up.

10 Trippy inversion

Take an image and then duplicate it, making sure that you're working in RGB mode. Invert the new duplicated image, which should be the top layer. Switch the layer's blending mode to Difference. This creates a subtle effect that still retains elements of the original image. Now use the Eraser Tool to erase parts of the converted layer, and reintroduce hints of the original image.



You too can create trippy images of livestock by using the Difference blending mode on an inverted image.

TOON TIPS

TIP TO REMEMBER 8

Comic book sketch

Duplicate an image and apply the Emboss filter to the top layer and set it to Hard Light. You may need to change the contrast of this layer using the Levels dialog, or switch on the Transparency Lock for this layer and then fill it with a colour such as black for a simple ink pen sketch.

Create a stylish comic-like sketch effect by using the Emboss filter and the Hard Light blending mode.

1 Blended rough comic artwork

Use the Artistic > Poster Edges filter to generate rough outlined comic artwork. Keep the Posterization setting to a minimum, and the Edge Intensity low, and increase Edge Thickness to get the desired effect. If you keep the original image under the filtered layer, use the Eraser Tool to work away part of the filtered layer to blend the layers together. This technique works well on faces in photographs.

The Poster Edges filter will give objects a rough outline, in the style of comic artwork.

2 Dirty ink lines

The Ink Lines filter under Artistic is a great filter to give part of your image a graphic dirty feel. Keep the stroke length to a minimum, but increase the Dark Intensity and Light Intensity to close to their maximum.

3 Ink blots

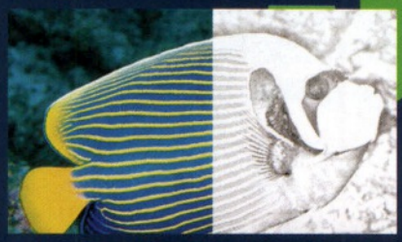
To create ink blot effects use a brush that has been set to Wet Edges to paint some black blob shapes on to a white canvas. Layer your paint strokes with another paint stroke. Then apply the Liquify filter, and use the Warp Tool to push and pull so the blobs look like splattered ink.

4 Neon edges

Open an image and apply the Glowing Edges filter, then use the Hue/Saturation dialog's Colourize option to colour it blue. Duplicate the layer and set its blending mode to Overlay. Then apply a slight Gaussian Blur, so that the edges look like they're glowing. Once you've done this, you may want to duplicate the blurred layer to make the glow more vibrant.

5 Gaussian Blur pencil sketch

Desaturate an image by going to Image > Adjustments, then duplicate the layer and invert the duplicate. Set the blending mode to Color Dodge and add a Gaussian Blur.



Apply the Gaussian Blur filter to an inverted image to create a simple greyscale shaded pencil sketch.

6 Stitched effect

Open an image and duplicate the layer, then apply the Find Edges filter. Desaturate the image, and use the Hue/Saturation dialog's Colorize option to turn it a darkish blue. Move this layer below the original coloured layer, and using the Magic Wand Tool, delete parts of the coloured layer so it looks as if the image has been created slowly. Flatten the image and add a small-scale texture effect to give the impression of fabric.

7 Pop art revisited

Open an image, preferably a head shot, that has a transparent background. Use the Threshold command to get a nice contrasting black-and-white effect. Duplicate this layer, and fill the head with white using the Layers palette's Lock transparent pixels option. Hide the layer, go back to the Threshold layer and use the Color Range command to select the white areas, then delete them. Now move the white-filled layer below this one. Fill the layer with a colour, then fill the Threshold layer, using the Lock transparent pixels option, and fill it with a colour. Create a new layer below these two, and fill it with a colour.

Create dramatic effects from your portrait pictures using Threshold and Transparency Lock.

9 Cutout alternative

Instead of using the Cutout filter, try using the Paint Daubs filter, keeping the brush size small and the sharpness high. Once you've applied these settings, use the Smudge Stick filter to give your image an outline. Use a high Intensity setting, and low Highlight Area and Stroke settings. These two filters work best with an image on a white background.

10 Charcoal two-tone

When applying the Charcoal filter, set your foreground and background colours to two vibrant colours, and then apply the filter to get a really nice rough screen print effect. You can make the effect heavier by increasing the Charcoal Thickness setting. Then have a go at posterising the image for a very clean graphic effect.

FUTURISTIC TIPS

1 Radial Blur

Apply the Radial Blur filter with the Blur Method set to Zoom and Quality set to Best for a simple effect. This works best on keylined objects, and gives an illustration an instant clean effect that adds movement and depth.

2 Lens Flaring

Avoid using the Lens Flare filter in an obvious way. If you want to add a bit of sparkle to a science fiction illustration, use a low Brightness setting and a Lens Type of 105mm Prime. Apply the filter repeatedly to generate a nice starry space background.

3 Heat effects

A great way of adding heat to illustrations is to use the Glass filter from the Distort submenu. Open an image and duplicate it, then apply the Glass filter with Texture set to Frosted and low Distortion and Smoothness settings. Keep scaling to about 75%, for a smooth, wavey distortion. Use the Color Balance command to intensify the reds, then delete elements to show the original image below.

Use the Glass filter in combination with Photoshop's Color Balance command to create heat effects.

TIP TO REMEMBER

4 Fiery eyes

Open an image with a close-up of an eye and paste a chromed fire image (see tip 9, 'Chromed fire') over the eye. Scale it down as necessary to fit over the iris, use the Eraser Tool to clean up the edges, then erase some of the fire so that the pupil shows through, and set this layer to Hard Light. Flatten the image, and use the Lens Flare filter to add a highlight. Duplicate the layer, apply a zoomed Radial Blur and set this layer to Overlay.

Add fire to eyes by combining a Chrome filter fire effect with Hard Light and Overlay blending modes.

5 Brushed metal

Create a new document, select a portion of an image and use the Add Noise filter; experiment with the filter settings, but make sure the Monochromatic option is enabled. Enlarge and stretch the image using the Transform options. Crop your image so there's no white background, then give the texture a bit of depth by using the Lighting Effects filter to cast some light across it.

6 Eye highlight

The Lens Flare filter is great for adding simple highlights to bring 'dead' eyes to life. Render a small Lens Flare highlight in each eye on the edge of the pupil, to simulate the reflection of light. You can also use the filter to highlight a figure by rendering half a Lens Flare on and off a figure, to create the impression that the figure is silhouetted against the sun.

7 Night vision

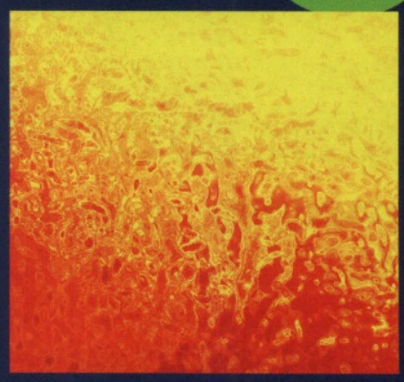
Open an image (a landscape is best) and convert it to Grayscale, then convert it to Duotone. Use two colours: a black or darkish green, and a vibrant green. Then convert the image back to RGB mode, and use the Add Noise filter to make it a bit grainy. You may need to use the Levels dialog to make some small adjustments to give the image a vibrant feel.

8 Motion Blur edges

To add subtle blurred edges that create the impression of movement, open an image and use the Pen Tool to create a clipping path around the object you want to blur, then turn it into a selection. Go to Select > Modify > Contract, and, depending on the resolution of your image, set Pixels to between 2 and 15, and click OK. Then go to Select > Feather, set Pixels to around 3 and click OK. Now invert the selection and apply the Motion Blur filter. You'll get a subtly blended blur, which is great for illustrations of space ships.

9 Chromed fire

Create a new document and make a number of paint marks and gradients in greyscale. Then apply the Chrome filter from the Sketch submenu, and enter high Detail and Smooth settings. Then create a new layer, and draw a gradient from rich orange through to yellow, so that yellow is at the top. Set this layer's blending mode to Hard Light.



Create fiery effects using the Chrome filter and a rich, yellow-to-orange gradient.

10 Infra-red effect

To create a realistic infra-red effect, open an image – a cityscape works well – and go to Image > Adjustments > Gradient Map. Create a black, dark blue, red and yellow gradient, and apply this to the image. Then go to Filter > Noise > Add Noise, set Distribution to Uniform and experiment with the Amount setting.

3D TIPS

TIP TO REMEMBER 8

Drop shadow

The Drop Shadow layer style is a simple and quick way to add depth to your illustrations. Try to be subtle with the effect, however, because sometimes it can look too obvious. Using it on people in photomontage illustrations helps to lift the person off the page.

Create the impression of depth in your images by adding a Drop Shadow layer style.

1 Instant 3D shapes

Create a graduated shape on a solid background, then click the layer styles button at the foot of the Layers palette and select Bevel and Emboss. You can create all manner of 3D effects by configuring the options in the Layer Style dialog. The Bevel and Emboss layer style is great for creating web buttons, but you can also use it to create organic shapes, and incorporate these in your illustrations.

2 3D text outlines

When you're using the layer styles to emboss and create 3D-style text, make multiple stroke outlines of the word or letter and emboss each stroke to give the letter or word multiple 3D elements. By adding slightly different drop shadows to the words, you can create some striking effects.

3 Ringed planets

To create an planet with Saturn-style rings, set up a document with a black background, then draw a circular selection with the Ellipse Tool, and fill it with a dark purple-to-black gradient. Apply the Noise filter, and then the Gaussian Blur filter. Create a new layer, draw an elliptical selection and fill it with a white-to-transparent gradient. Then use the Free Transform command to rotate the ellipse and position it in relation to the planet as shown below. Use the Eraser Tool to delete parts of the ring, then apply a Gaussian Blur to soften it slightly. Duplicate this layer, and add the Noise filter, then slightly offset it from the original ellipse layer.

Create a realistic ringed planet by combining the Ellipse Tool with filter effects.

4 Duplicated 3D cubes

A great use for the 3D Transform tool is to help you generate multiple items at slightly different angles. For example, you could have a cityscape but only a couple of buildings on the horizon. Rather than use the Clone Tool to duplicate them at the same angle, use the 3D Transform tool to duplicate and slightly rotate them.

5 Create the sun

You could use the 'Chromed fire' tip (see facing page) in conjunction with the 3D Transform filter (Filter > Render). This is a great way to create instant planets and spheres. Another great use is to create eyes for illustrations. Sometimes details in eyes can be lost in a photograph, so by making your own eye texture and then applying the 3D transform filter, you can generate sharper eyes.

6 Isometric pixel art

Using an isometric angle of 30 degrees with no vanishing point is a cool way to build an illustration very quickly in *Photoshop*. As there's no vanishing point with isometric perspective, you could, for example, create a Lego-style brick with the Line Tool, fill it with a gradient then apply a filter such as Cutout. By duplicating the layer in *Photoshop* you can gradually build a shape as if you were building one in the real world. By flipping the brick horizontally, you can build in the other direction.

7 Lighting effects

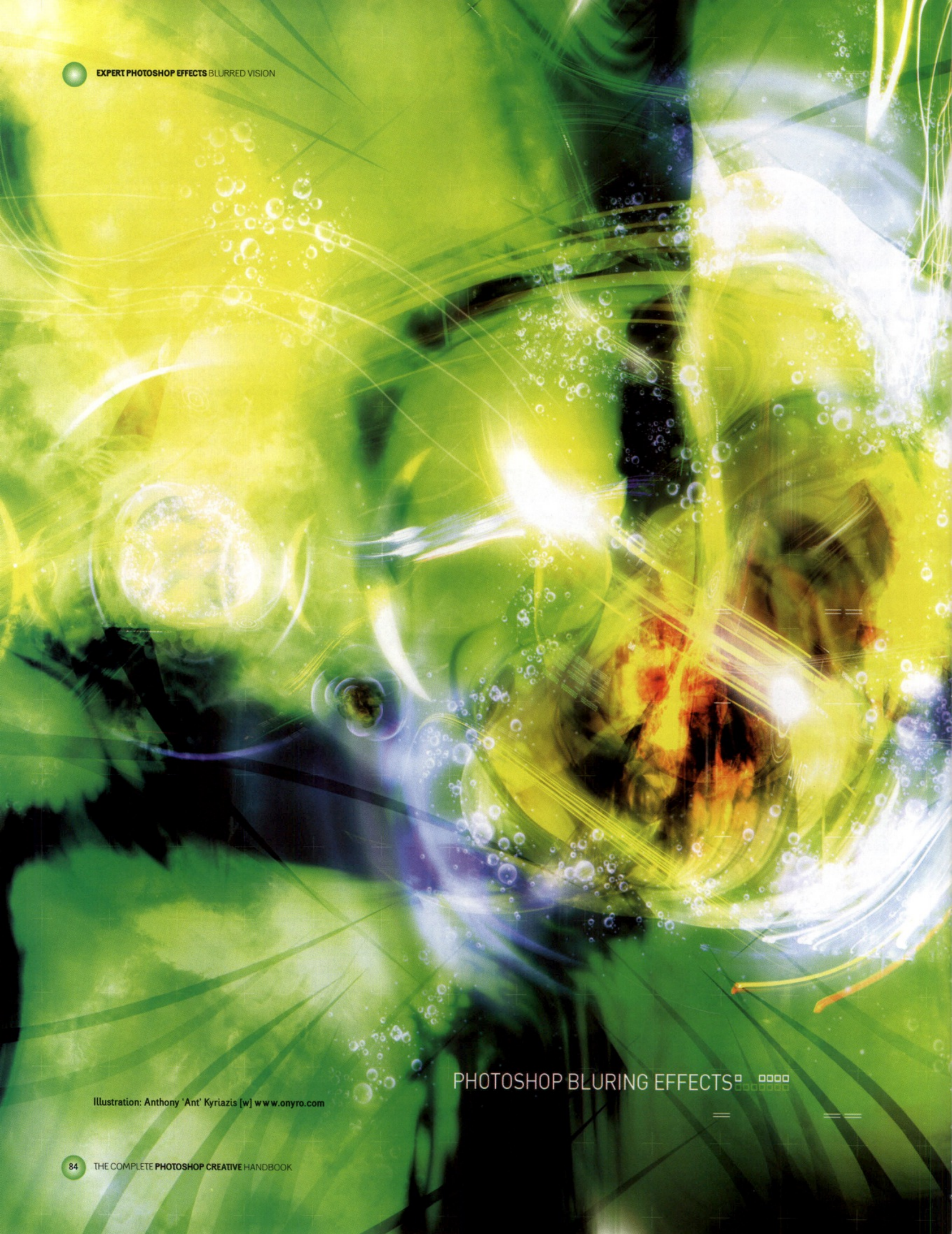
The Lighting Effects filter, found under the Render submenu, is very sophisticated, and enables you to instantly add depth to an illustration by creating highlights and shadows. It's best to use more then one light source, as if you only use a single light the effect may just look like a gradient. Try using two spotlights from different directions, and applying different properties to each light to produce different effects. You could use this effect on the 'Ringed planet' tip on the left.

9 Liquified 3D

The Liquify filter is another great way to create 3D effects. Try applying it to text, and using the Bloat Tool to distort parts of a word. The Bloat Tool can be used to produce a variety of effects – use it on an image of fire to create the illusion of molten lava or bubbles in oil.

10 Third-party plug-ins

If you look on the web you'll come across a whole host of websites offering plug-ins that simulate 3D effects in *Photoshop*. Most of these can be installed to *Photoshop's* Plugins folder, and then accessed through the Filter menu. There are some very sophisticated plug-ins that simulate a 3D software application, and some can even apply texture maps and decals to the 3D objects.



PHOTOSHOP BLURING EFFECTS

Illustration: Anthony 'Ant' Kyriazis [w] www.onyro.com

Blurred vision

The Blur filters in Photoshop aren't just for putting pixels out of focus – they have plenty of creative uses too. We explore some of the techniques that will change your point of view...

Everyone has used the Gaussian Blur filter at some point as part of a creative process, but the Blur submenu filters offer a wide range of other effects with less-obvious applications. For example, blurring a slightly pixelated image can be the first step to improving the quality of it; you could then duplicate the background layer, and use blending modes to create a smoother result.

The Smart Blur filter also offers a way of smoothing out areas of an image, while keeping the edge detail sharp. The Edge Only and Overlay Edge modes in the dialog box are really only there to show how the filter will affect the edge detail, but these modes can also be useful in creating a stylised effect as part of an illustration.

The addition of the Lens Blur filter in Photoshop CS enables you to achieve convincing depth-of-field effects. We'll look at this new filter in detail, and show you how to create two different types of background blur effect. The first produces a subtle blur that makes the foreground subject stand out from the background, while the second focuses on toning down the background, and boosting the colour of the image. We'll also look at the other Blur filters, to see how they can be best used.

Expertise provided by Frank Bartucca. Frank can be contacted at **frankdesign@btinternet.com**.

All the components needed to complete this tutorial can be found on the DVD in the DiscContent\Tutorials\Chapter2\Tutorials\Blurred Vision folder. Note that the Running Man.tif and Elvis.tif images are the copyright of Digital Vision (**www.digitalvision.com**). These are supplied for the sole purpose of following this tutorial, and are not for commercial use.

The Lens Blur filter explained

A welcome and long overdue addition to the Photoshop Blur filter set...

Before the arrival of the Lens Blur filter, achieving realistic depth of field effects in *Photoshop* was never an easy task. The results were less than convincing, because a conventional camera handles distant objects in a different way to just blurring them as you might in *Photoshop*. The light entering the camera lens diffuses and expands, creating circular highlights and hot spots.

Now you can create these effects easily with the Lens Blur filter. A layer mask or alpha channel can be used as a 'depth map' to isolate an object while blurring the rest of an image. By default, the black areas of a depth map are considered to be in the foreground, and white areas in the background. But the focal plane can also be adjusted manually using the Blur Focal Distance slider.

Camera lenses have different-shaped irises depending on how many blades are contained in the lens, and to add realism to the Lens Blur effect you can choose from several iris shapes, ranging from triangular to octagonal. The octagonal shape gives the best results, especially when the Blade Curvature option is set to a high value to make the shapes more circular. The Specular Highlights option handles the brightness of the lightest areas in an image. The Brightness option, along with the Threshold option, help to create those blown-out areas that appear in photographs, where the background is way out of focus.

The Lens Blur filter produces the kind of realistic blurring effect that you get when using a low f-stop setting on a camera.

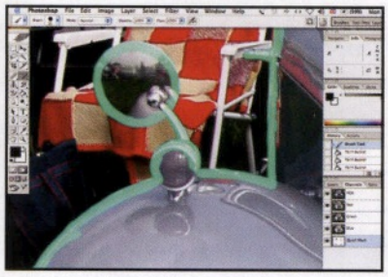
Part 1: Using the Lens Blur filter

First we'll use the filter to apply a narrow depth of field effect. The hardest part is creating a depth map...

Blade Curvature and Rotation

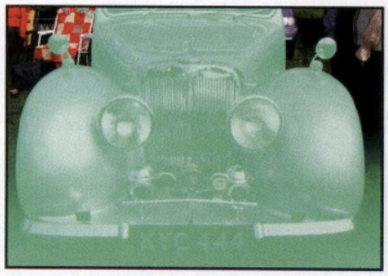
These options help to create a more realistic effect by smoothing the edges of the chosen iris shape. The Radius setting needs to be fairly high for the effect to be visible when the background is blurred beyond recognition. The effect simulates the overlapping circular blurred effect that you get with a real camera. Any highlights are blown out completely and merge into circular white blobs, resulting in a very convincing effect.

1 Open the Vintage car.tif file from the cover DVD. This image is ideal for creating a narrow depth of field effect, because it has a prominent object in the foreground. First, create a depth map on an alpha channel by using a mask. Press 'Q' to enter Quick Mask mode.



2 Select the Brush Tool, and choose a round brush tip of 10 pixels and 50% Hardness. Paint around the edges of the car, changing the brush size as you go for smaller details such as the wing mirror arms. If you go over any edges, press the 'X' key to switch the brush to white, and tidy up any overlap.

3 Use the Paint Bucket Tool to fill in the centre of the mask, then paint over the thin line where the fill doesn't quite meet the brush strokes to complete the mask. Press 'Q' to turn the mask into a selection, and click the 'Save selection as channel' button in the Channels palette.



4 Deselect the selection, then select the Gradient Tool. Click on the Alpha 1 eye icon in the Channels palette, and apply a Linear gradient from the bottom of the car's number plate to the middle of the headlamps. Click the RGB composite channel thumbnail, and go to Filter > Blur > Lens Blur. Choose Alpha 1 from the Source pop-up menu.

5 Leave Blur Focal Distance set to 0, and set the Iris Shape to Octagon and the Radius to 20. The Blade Curvature and Rotation can be left at 0, because they won't make any difference to this subtle effect. Set Specular Highlights Brightness to 15, and Threshold to 250.

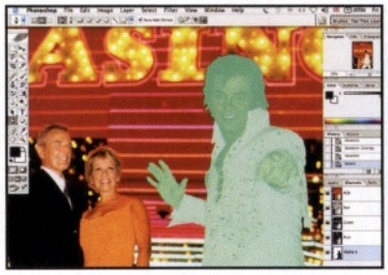
6 Set the Noise Amount to 10, Distribution to Gaussian and check the Monochromatic box to bring back in a little detail in the blurred areas, and to create a more natural blend between foreground and background. If the edges of the car are too crisp, undo the filter and blur the alpha channel before applying the Lens Blur again.

Part 2: Colour boost blur

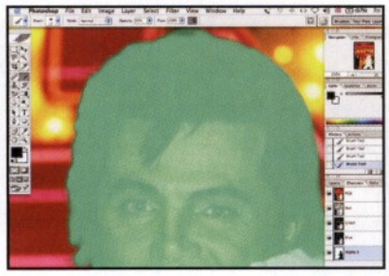
Elvis is brought back to life by blurring and darkening the background of this image...

Foreground blur

You can reverse the effect of the Lens Blur filter to blur the foreground and keep the background in focus. You'll still need to create a layer mask or alpha channel as a depth map to isolate the subject, but, because it'll need a feathered edge, it can be painted quickly with a brush. Then either click the Invert button in the dialog box to flip the depth map, or use the Blur Focal Distance slider to make a more precise selection of which areas will be blurred and which will be in focus.

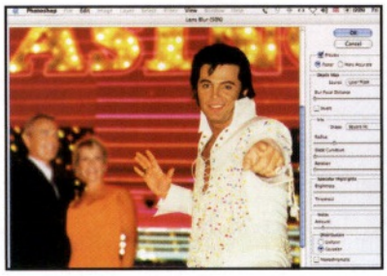


1 Open the Elvis.tif file from the cover DVD. Start by drawing a path around the Elvis impersonator; when you come to the hair, just draw around the main outline. Click the 'Load path as a selection' button, use the selection to create a new alpha channel, and invert it.

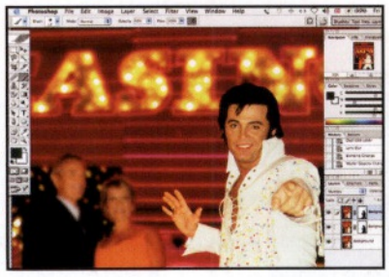


2 Go to Filter > Blur > Blur More to soften the edges of the mask. Select the Brush Tool, and choose a soft-edged brush of about 17 pixels set to 50% Opacity. Paint over and around the edges of the hair to create a soft blend with the background.

3 Duplicate the background layer, and use the alpha channel as a selection to create a layer mask. To see if the layer mask will look convincing, open the Lens Blur filter, select the More Accurate preview mode and select Layer Mask from the Source pop-up menu.



4 Adjust the mask if necessary, then open the Lens Blur filter again. Select the Faster preview mode and Layer Mask from the Source pop-up menu. Set the Iris Shape to Square, Radius to 25, and Blade Curvature and Rotation to 0. Set the Brightness to 100, Threshold to 246 and Noise Amount to 10, and select Gaussian Distribution.



5 Duplicate this layer, and open the Lens Blur filter. Choose the Octagon shape, set the Radius to 60 and increase the Specular Highlights Brightness to 36. Set this layer to Multiply and 50% Opacity, to darken the background a little and add a halo effect around the lights.

6 Now, to boost the skin tones of the Elvis character, duplicate the background layer and drag it to the top of the stack. Make a selection from one of the layer masks and click on the 'Add a mask' button, invert the mask and set the layer to Soft Light.

Part 3: Blur filter adjustments

Blur filters are often used to add depth to an image on a duplicate layer...

1 This technique works well on most images, and is especially effective on portraits of people. Open an image of your choice, duplicate the background layer and go to Filter > Blur > Gaussian Blur and enter a low Radius value. Here the Radius has been set to 5 pixels for a subtle blur.

2 The layer can then be set to Overlay or Soft Light to blend the effect in with the background layer. Overlay will produce an image with deeper colours and softer edges, while Soft Light will retain more detail, and give the colours a little boost.

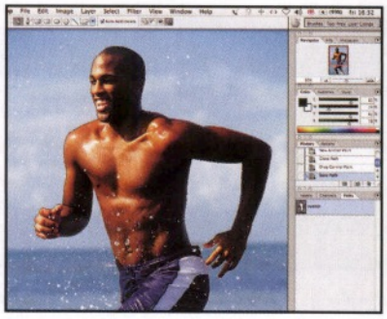
3 You can use the Smart Blur filter to flatten areas of colour while still retaining edge detail. Here Radius and Threshold are set to 100, Quality is set to High and Mode to Normal, then the duplicate layer is set to Soft Light. This method helps to smoothe areas suffering from over-compression.

Part 4: Motion Blur techniques

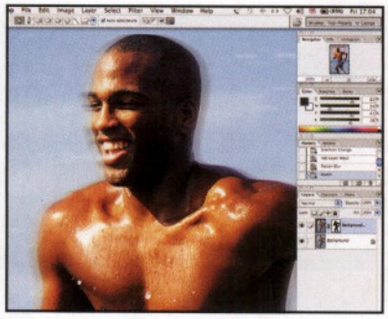
This effect is applied over several layers and blended, to simulate an image taken with a panning camera...

Look at real photos

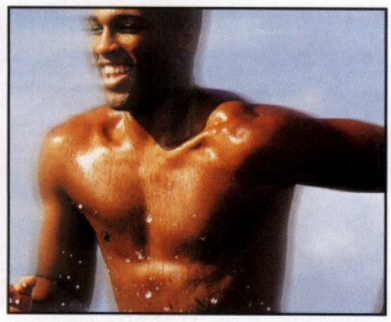
Most photographers will shoot an image like the one created in this tutorial with a panning camera, using fill-in flash to capture the moving subject while blurring the background. This technique is difficult to get right, but a convincing motion effect can be applied in *Photoshop*. Blurring the background is easy; the trick is to study photos that feature blurring, and try to replicate the effects. Notice how the edges of the subject blend with the background, and how parts of the subject become almost transparent.



1 Open the Running Man.tif file from the DVD. Start by drawing a path around the runner; when you get to the legs, follow the line of legs without worrying about the droplets of water. This path will form a basic layer mask that will be manipulated using the Motion Blur filter.

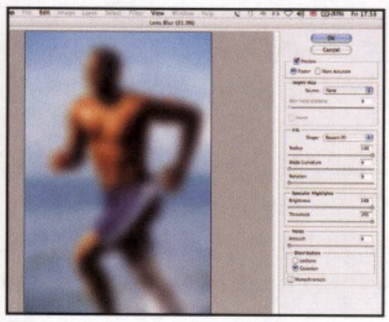


2 Duplicate the background layer, select the path and use it to create a layer mask. Invert the mask, then go to Filter > Blur > Motion Blur and set Angle to 0 and Distance to 50 pixels. This creates a subtle blur effect around the edges of the runner, as the filter is applied to the layer mask too.

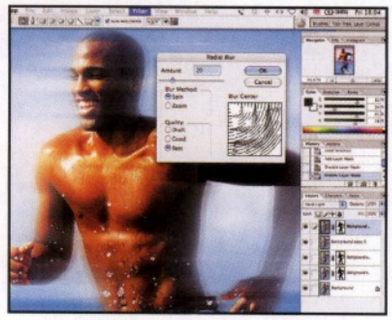


3 Duplicate the background copy layer, and apply the Motion Blur filter with a Distance setting of 200 pixels. Set the layer blending mode to Lighten to extend the overall blur effect; this creates patches of lighter areas where the blur overlaps the body of the runner and the background.

4 Now add a combined blur and exposure effect. Duplicate the background layer, and place it at the top of the stack. Apply the Motion Blur filter at 400 pixels and set the layer to Overlay. Now you can see the edges of the runner's body starting to merge with the background.

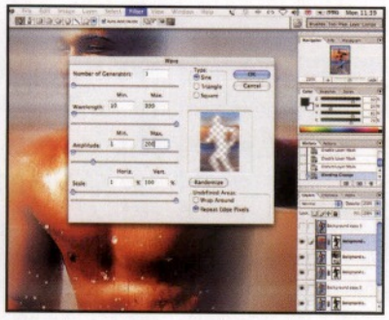


5 Duplicate the background layer again, and place it at the top of the stack. Select the Lens Blur filter, and set Source to None, Iris Shape to Square, Radius to 100, Blade Curvature to 0, Rotation to 0, Brightness to 100, Threshold to 255 and Noise Amount to 0. This creates an extreme blur effect.

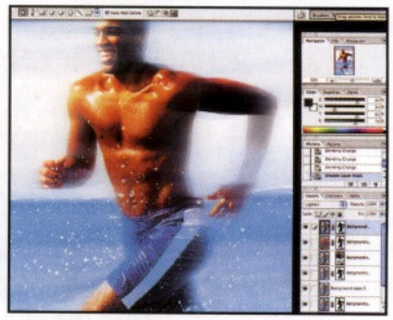


6 Now apply the Radial Blur filter with Amount set to 20, Blur Method set to Spin and Quality set to Best. Click in the Blur Center box, and drag the centre of the effect to the top-left corner. Select the Background copy 2 layer mask and add a mask to this layer, to hide the effect in certain areas. Set the layer's blending mode to Hard Light.

7 Duplicate the background layer, place it at the top of the stack and apply a 20-pixel Gaussian Blur. Click on the Channels tab and select the Cyan channel. Use the selection to add a layer mask, and invert it. Set the layer to Color Dodge to intensify the blending of the runner with the background.



8 Duplicate the Background copy 4 layer, and put it at the top of the stack. Apply the Motion Blur filter at the maximum Distance setting of 999 to the layer but not the layer mask. Link the layer mask, and apply a subtle Wave filter effect, then set the layer to Overlay to add wavy streaks to the background.



9 Now duplicate the background layer, place it at the top of the stack, and select the Background copy layer mask to add a layer mask to the layer. Set the layer's blending mode to Lighten to bring back the drops of water in the foreground, and the grainy texture in the background.

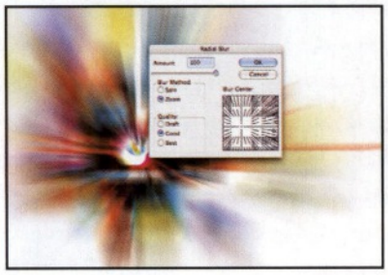
Part 5: Zoom effect

The Radial Blur filter is used here to help create a focal point in this illustration...

Not so average

Applying the Average Blur filter to an entire image will invariably turn the image into a solid block of grey. However, as you can see from this tutorial, when it's applied to selections, the selected colours are flattened into a single colour. This filter is ideal for quickly turning a portrait into a simplified flat colour illustration, or you could try using it on a duplicate layer to create a more stylised effect, and blending the layers using the Soft Light or Overlay modes.

1 This illustration is finished, but it suffers from being too busy, as the intention is to draw the viewer's eye to the centre of the image. The layered *Photoshop* file is saved as a TIFF to merge all the layers together, then the Background layer is duplicated so that we can apply the Radial Blur filter.



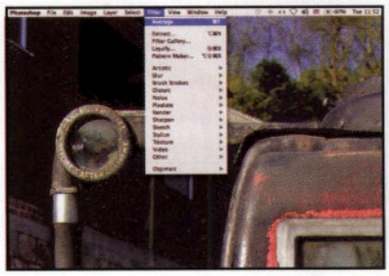
2 In the Radial Blur dialog box, Amount is set to the maximum of 100, Blur Method to Zoom and Quality to Good, and the Blur Center is dragged to match the centre of the illustration. Pinpointing the effective centre point of an image can be tricky, so practise with a low Amount and Quality setting first, so that you can view the effect quickly.

3 A layer mask is added to the duplicate layer, and a radial gradient is applied from the centre of the image to the edge to hide the radial blur effect in the centre. The detail in the outlying imagery is now softened, and the viewer's eye is drawn immediately to the centre of the illustration.

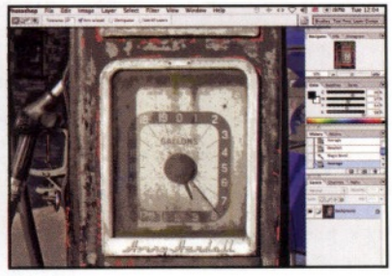
Part 6: Average and Smart Blur illustration

Use these filters together to turn a photograph into a stylised flat-colour illustration...

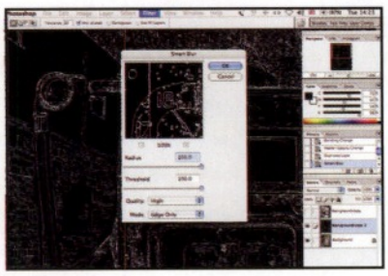
1 Open the Old petrol pump.tif file from the cover DVD. You can make selections using either the Color Range command or the Magic Wand Tool, but we'll use the Magic Wand Tool because it's quicker. Select the tool, set the Tolerance to 20 and untick the Contiguous box.



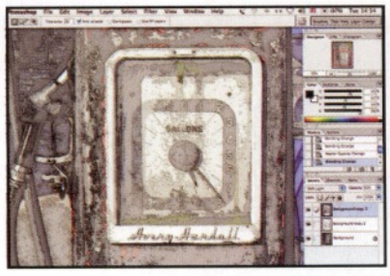
2 Click on a brown area in the top left-hand corner of the image to make the first selection. Go to Filter > Blur > Average, to fill the selection with the average colour sampled from those pixels. Deselect, click on a darker part of the same area, and press Ctrl/Command+F to run the filter again.



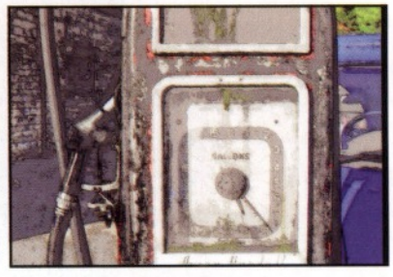
3 Repeat this process of selecting areas and applying the Average filter until you end up with a completely flat colour illustration; you'll need to zoom in to check for stray pixels, and select these too. Try to select the most colourful areas, to stop the image from being filled with too much grey.



4 From this point, you can apply other Blur filters to increase the illustrative look of the image. Duplicate the layer, and go to Filter > Blur > Smart Blur. Set Radius to 100, Threshold to 100, Quality to High and Mode to Edge Only: this creates an inverted black-and-white line effect.



5 Invert the layer by pressing Ctrl/Command+I, then set the layer's blending mode to Soft Light. Duplicate this layer, and apply a 10-pixel Gaussian Blur. Go to Image > Adjustments > Auto Contrast to increase the contrast, and set the Opacity to 50 per cent.



6 Duplicate the Background layer, and apply the Gaussian Blur filter, this time with Radius set to 10 pixels. Set the layer to Overlay to lift the colours, increase the contrast a little, and add some depth to the final image. You can experiment even further with this technique to create more unusual effects. ■

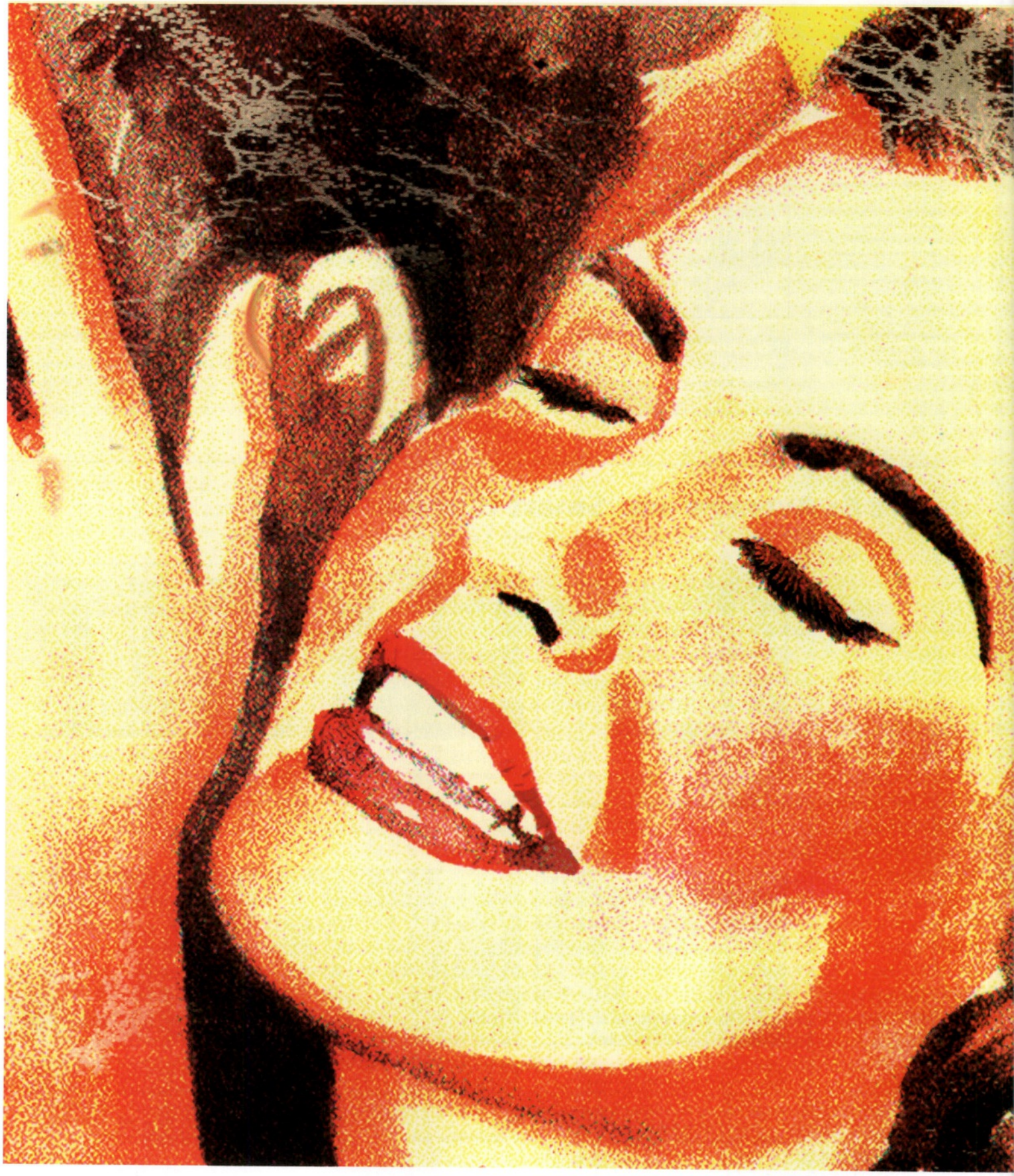


Illustration by Don Sparrow www.donsparrow.com

Age your images

Photoshop expert and retro-kitsch enthusiast **Don Sparrow** reveals the tricks and special techniques he uses to digitally age his images in this step-by-step guide to giving your work familiar styling characteristics of the forties and fifties

Over the next few pages, I aim to share some of the tricks I've learned during my time as a professional illustrator. The style I have developed as a delivery device for my illustration work leans heavily on the look and feel of printed material from the Forties, Fifties and Sixties. By using a style that's reminiscent of a long-gone era, but while often working with modern subject matter and personalities, I've been able to find a way to approach a story in a more timeless way that (hopefully) engages the reader.

I use *Adobe Photoshop* to colour most of my pieces, although I try to ensure that this modern, digital technique doesn't make my work appear too slick and computer-generated; I guess it could be described as digital collage. I take a real-world work (most often an ink drawing or gouache painting), and add layers of textures and colours from my library of digital resource material, such as the files provided on the cover DVD, to create a cohesive piece. It's retro warmth meets sly modernity – well, that's the idea anyway.

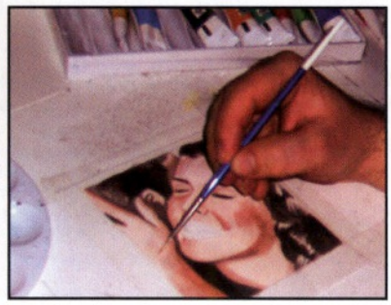
In the course of this tutorial, I hope to impart a novel way of solving a visual problem digitally, while ensuring that the finished piece doesn't reveal its *Photoshop* roots. Then, if you ever need to create an image with the look and feel of decades gone by, you can use some of these tricks, rather than applying the same old filters, that are familiar to everyone, time and time again.

Follow these steps and you'll add another useful arrow to your digital quiver, gain another option for self-expression – and have a cool new trick to show off to your friends. ■

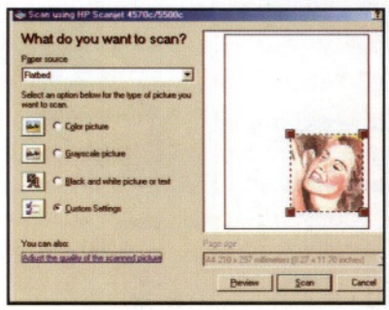
Files on disc
DiscContent\Tutorials\Chapter2\Tutorials\Age your images

Creating an aged image

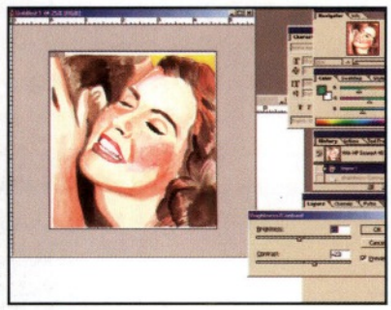
1 This tutorial starts with a simple pencil sketch. Choose a subject you think will work, but ensure that the image helps to convey the retro feel you're trying to achieve. To produce the image featured on these pages, I chose to work from an old photograph of a couple embracing, but narrowed my focus to just the woman's expression.



2 Next, start to paint over your sketch using gouache, an opaque watercolour paint. At this stage, you'll need to try and produce an image that has the appearance of a colourised photograph, using over-saturated colour on the woman's lips and pastel colours across her cheeks.



3 Now for the fun part! In order for this to be a truly digital image, you'll need to bring your painted image into *Photoshop*. It's important that you create a high-res file. I scanned this particular painting using a Hewlett-Packard ScanJet 4570C, in full colour, at 300dpi.

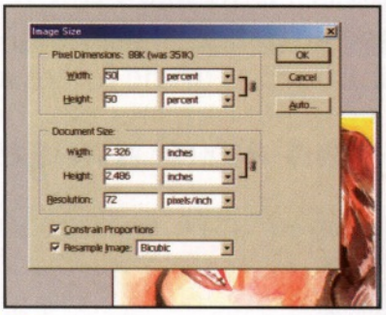


4 Your image now needs to be tweaked before you go on to the next stage. One of the staples of vintage graphics is highly saturated printing, so adjust the brightness and contrast. Select Image > Adjustments > Brightness/Contrast, and move the sliders until the image displays the more garish colours of old-style printing.

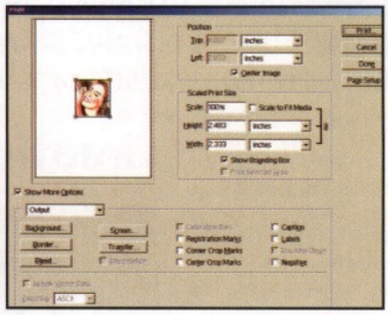
Creating an aged image... continued

Use your brain

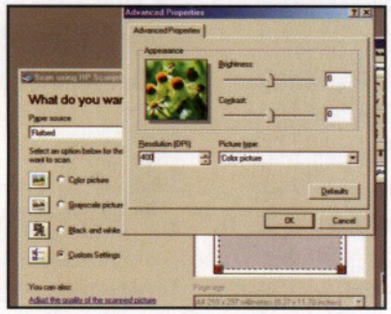
Although I make a living using a computer to create my art, I like to think that my brain has something to do with it, too. I would advise any digital artist to avoid becoming too reliant on computers alone. The computer truly is a versatile and reliable tool, but so are your hands, and your mind. I've found that the more work I'm willing to put in, computer aside, the more rewarding will be the final result.



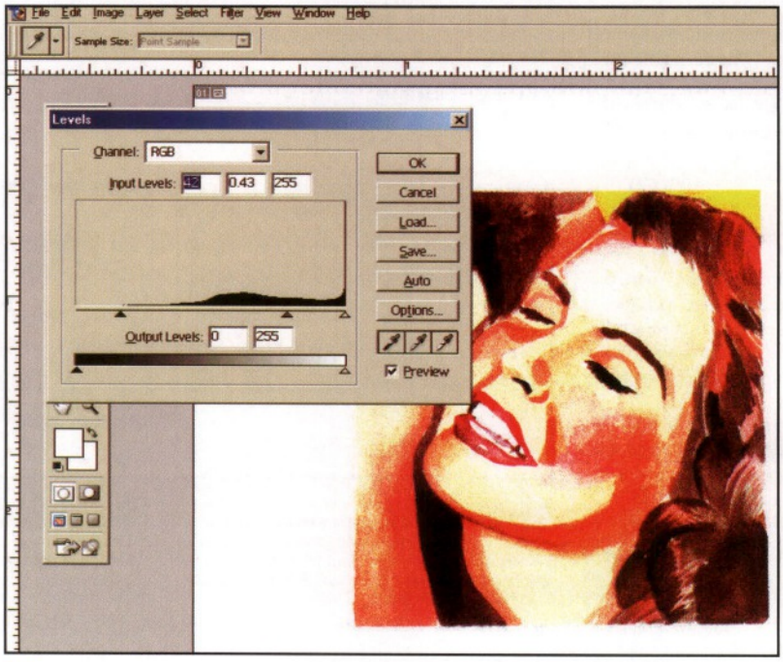
5 Now reduce the image size and quality by going to Image > Image Size. First, reduce the resolution from 300dpi to 72dpi, then reduce the overall size by 50 per cent. The image, which originally measured around four inches square, should now print out at about two inches square.



6 You can now print your shrunken image out to see how it looks. Hit Ctrl+P to call up the Print Preview menu – this will give you a clearer idea of how your image will appear on the page – and hit Print.

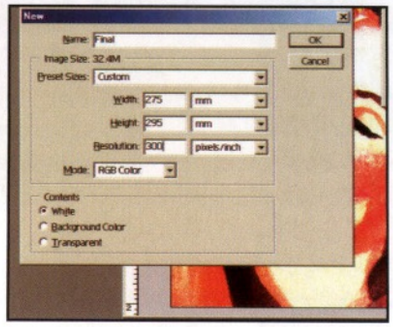


7 Next, to mimic the 'dotted' appearance you get with offset printing, re-scan your printed image back into Photoshop. This image will need to be scanned in at an even higher resolution because of the previous reduction in size and image quality. Scan a full-colour image at 400dpi.

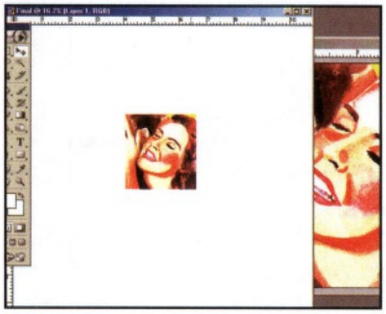


8 Notice how some of that vibrant colour has been washed out during the scanning and printing process – you'll need to play around with the levels. Choose Image > Adjustments > Levels (Ctrl/Command+L), and change the input levels to 42, 0.43, and 255. Alternatively, just play around until you're happy with the results.

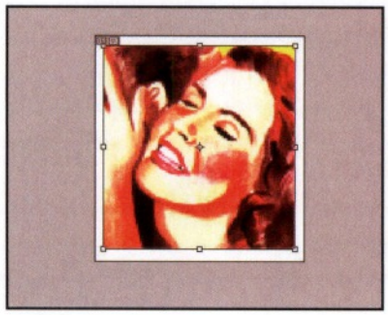
9 If, like me, you were a little clumsy while taping down the page during painting, your image may have a slightly crooked shape. Correct this by cropping it using the Crop Tool.



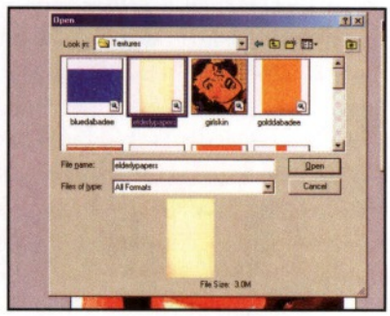
10 Create a new document with dimensions of 275mm wide and 295mm high, and set the resolution to 300dpi. Name your document 'Final', and hit OK.



11 Using the Move Tool, drag your scan into the document you've just created. You'll immediately see that this new layer looks pretty tiny, even at 400dpi.



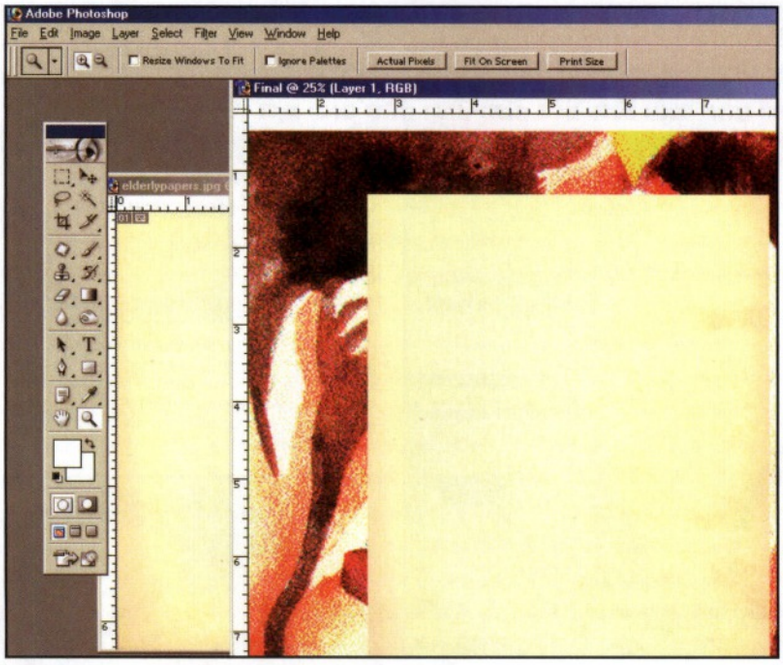
12 Transform (Ctrl/Command+T) the image layer so that it fits your background more comfortably, and extend it to each edge to allow for 'bleed'. Once you're happy with its position, flatten it by selecting Layer > Flatten Image, or select Flatten Image from the Layers palette menu.



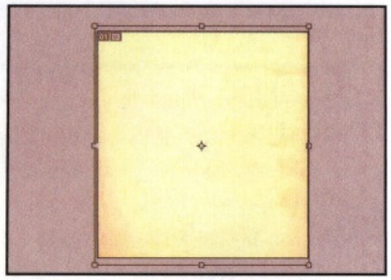
13 Open elderlypapers.jpg, the texture file provided on the cover DVD. To create this texture, I simply scanned an old yellowed book page at high resolution.

Do the mess around

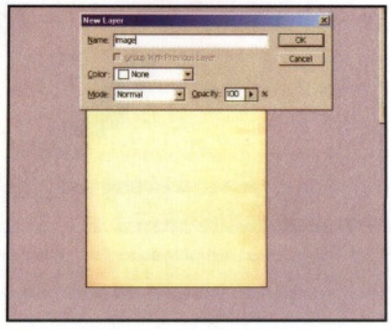
Although it's unlikely that Ray Charles's lyrics referred to digital art, his sentiment still applies. Digital imaging, more than any other discipline, has the greatest potential for happy accidents. So experiment, try stuff out and don't be afraid to 'wreck' a piece; if a move doesn't turn out quite how you like, there's always the Undo command!



14 Select the Move Tool, and use it to drag and drop the aged paper texture straight on to your 'Final' image. Now we can get to work combining the two images to create a Forties/Fifties feel.



15 Once the aged paper layer is in place, Transform the page (Ctrl/Command+T) so that it takes up the entire image. By doing this, you'll ensure that even the border surrounding the image will have an interesting texture, which will look good for visual 'bleed' on the printed page.

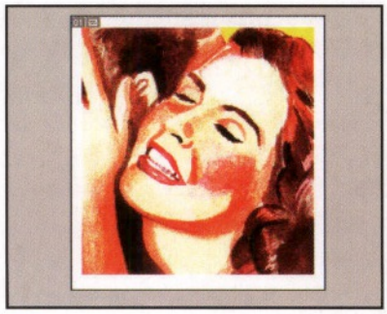


16 Double-click on the Background layer in the Layers palette to call up its file information. Change the name to 'Image'. The layer will now be unlocked, so it's possible to change the layer order. Switch the layer order so that the 'Image' layer is at the top of the stack.

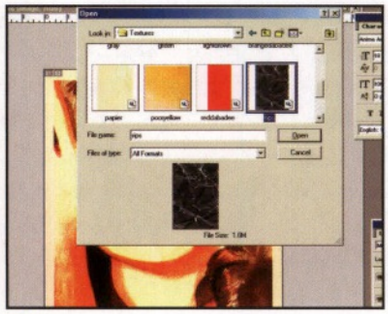
Creating an aged image... continued

Make it look cool!

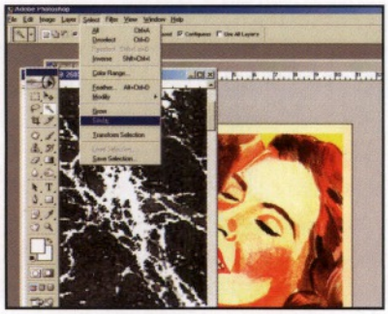
This was the simplest, most profound advice I was ever given by one of my instructors, and it has stuck with me. You can read all the books you want with theories on composition, style or symbolism, but the most important thing, for me anyway, is having a finished product that's interesting enough to hold the viewer's interest for more than a few seconds.



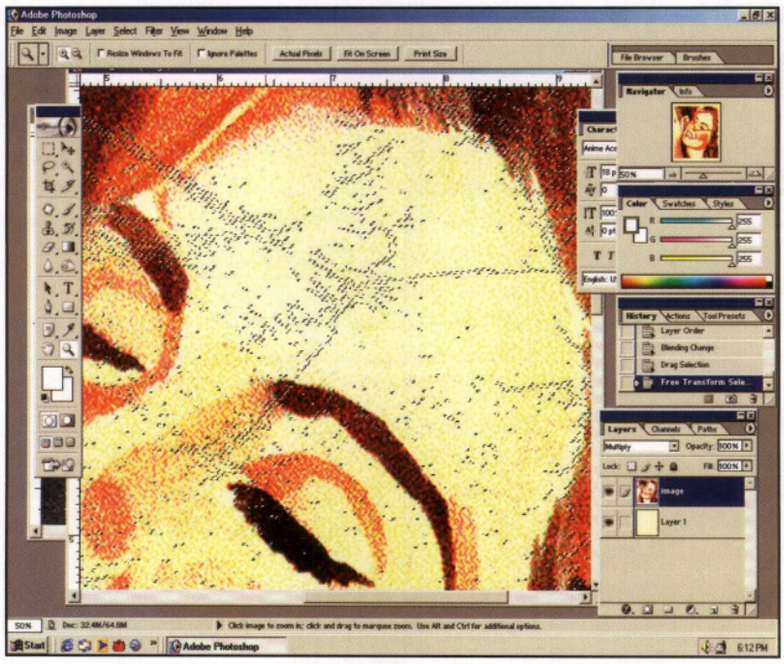
17 Once you've reversed the layer order, change the 'Image' layer's style to Multiply using the button at the foot of the Layers palette, or by going to Layer > Layer Style.



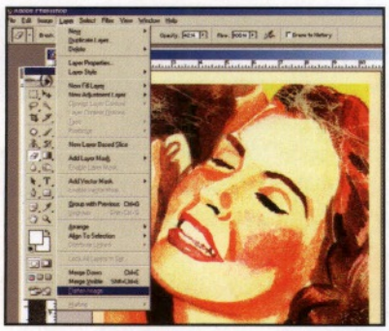
18 Now you can open the remaining texture file, rips.jpg, from the cover DVD.



19 Select the rips.jpg image, then zoom in on it. Use the Magic Wand Tool to select a tear from within the scanned image. If you would prefer to use a larger aged area, use the Select Similar command from the Select menu.



20 Using the Rectangular Marquee Tool, drag the selection from the rips file over to your 'Final' image. At this point, you may need to Transform your selection (Ctrl+T). Once you have your rip selections in place, switch to the Eraser Tool, and carefully rub away at the top layer to reveal the aged paper beneath.

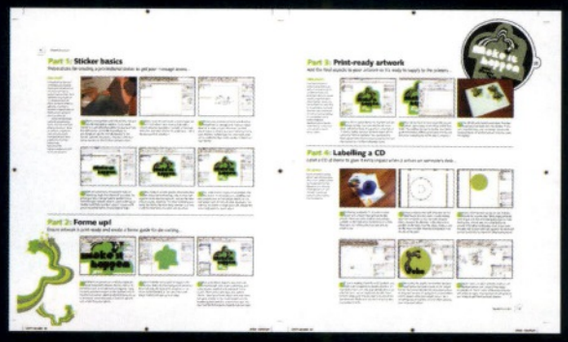


21 Once you're happy with your weathered areas, flatten the image by selecting Layer > Flatten Image. By doing this, you can save significant hard drive space, because your computer will retain the image quality without having to store redundant layer information.

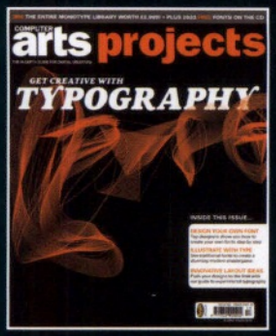
22 Finally, save your flattened image as a TIFF (with no compression), and pat yourself on the back for a job well done. You've taken an original work from the year 2005 and made it look like authentic artwork from decades ago. For a new challenge, try giving the same treatment to a more recognisable modern image, and see what happens.

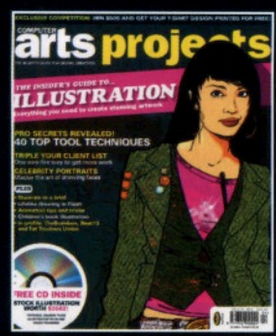
COMPUTER arts projects

EXCLUSIVE COMPETITION: WIN A TOP-OF-THE-RANGE HP A1 DESIGNJET PRINTER WORTH £1292!
COMPUTER arts projects
THE IN-DEPTH GUIDE FOR DIGITAL CREATIVES
EVERYTHING YOU NEED TO BECOME A...
FREELANCE DESIGNER!
• Win big-name clients
• Build a top online portfolio
• Nail your first showreel
• Design business stationery
• Unravel tax and copyright
PLUS
TOP FREELANCER SECRETS
Miles Donovan, Liselotte Watkins and illdesigners reveal all
40 SELF-PROMOTION TIPS
Nick and Adam Hayes of Identikal on how to conquer the design industry
FREE CD INSIDE
PROTECT YOUR WORK!
WITH IWATERMARK (FULL SOFTWARE)
BUSINESS MANAGEMENT TOOLS
20 FREE STOCK IMAGES
TUTORIAL SOURCE FILES
ISSUE 71 MAY 2005 £6
UK edition • Printed in the UK

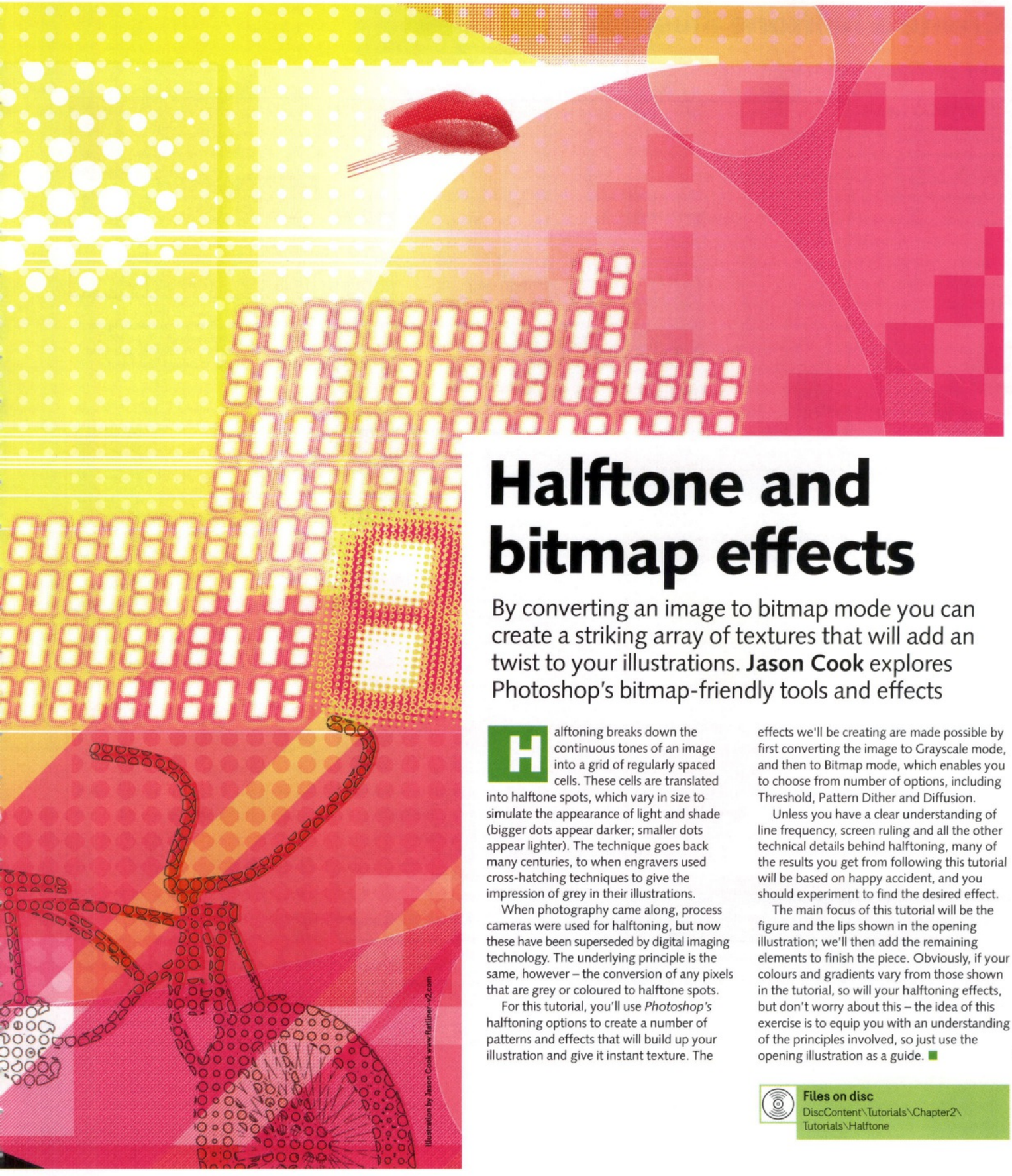


Computer Arts Projects **is the only in-depth guide for digital creatives to cover a different subject every month...**





SUBSCRIBE TO COMPUTER ARTS PROJECTS TODAY AT
WWW.MYFAVOURITEMAGAZINES.CO.UK OR CALL 0870 837 4722



Halftone and bitmap effects

By converting an image to bitmap mode you can create a striking array of textures that will add an twist to your illustrations. **Jason Cook** explores Photoshop's bitmap-friendly tools and effects

Halftoning breaks down the continuous tones of an image into a grid of regularly spaced cells. These cells are translated into halftone spots, which vary in size to simulate the appearance of light and shade (bigger dots appear darker; smaller dots appear lighter). The technique goes back many centuries, to when engravers used cross-hatching techniques to give the impression of grey in their illustrations.

When photography came along, process cameras were used for halftoning, but now these have been superseded by digital imaging technology. The underlying principle is the same, however – the conversion of any pixels that are grey or coloured to halftone spots.

For this tutorial, you'll use *Photoshop's* halftoning options to create a number of patterns and effects that will build up your illustration and give it instant texture. The effects we'll be creating are made possible by first converting the image to Grayscale mode, and then to Bitmap mode, which enables you to choose from number of options, including Threshold, Pattern Dither and Diffusion.

Unless you have a clear understanding of line frequency, screen ruling and all the other technical details behind halftoning, many of the results you get from following this tutorial will be based on happy accident, and you should experiment to find the desired effect.

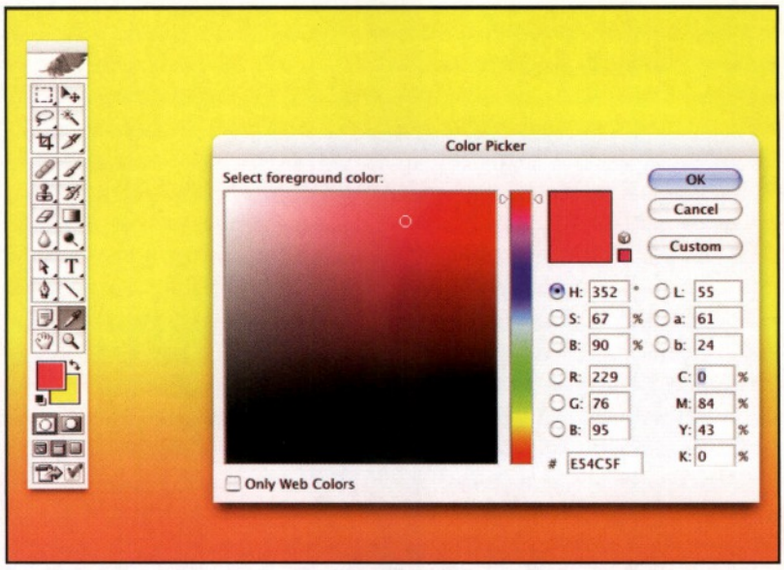
The main focus of this tutorial will be the figure and the lips shown in the opening illustration; we'll then add the remaining elements to finish the piece. Obviously, if your colours and gradients vary from those shown in the tutorial, so will your halftoning effects, but don't worry about this – the idea of this exercise is to equip you with an understanding of the principles involved, so just use the opening illustration as a guide. ■

Files on disc
DiscContent\Tutorials\Chapter2\Tutorials\Halftone

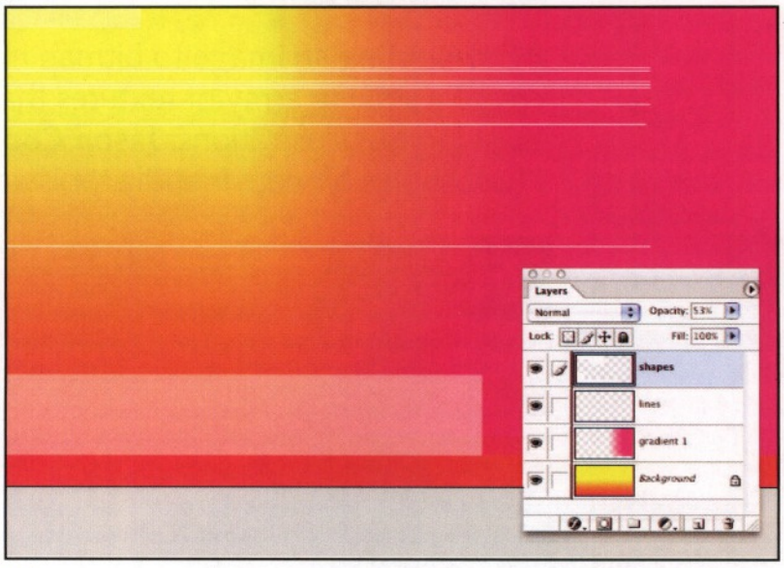
Create a halftone illustration

Why halftone?

Halftoning is a great way to generate instant patterns and textures. There are endless possibilities if you experiment, but you'll get better results if the original image you're trying to convert already contains interesting detail and depth.

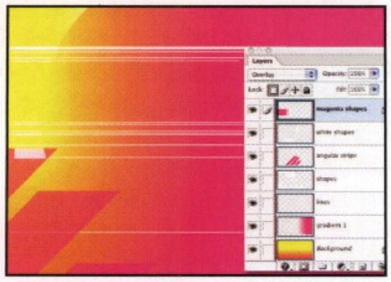


1 Create a new document around 45cm wide by 23cm deep, at 72dpi (or around 300dpi if you want to work at hi-res). You'll need to treat this image as if you're working for print, so set the colour mode to CMYK. Now, using the Gradient Tool, create a colour gradient as shown above. Set the foreground colour to 100% yellow in the CMYK Color Picker dialog, and the background colour to C: 0%, M: 84%, Y: 43% and K: 0%.

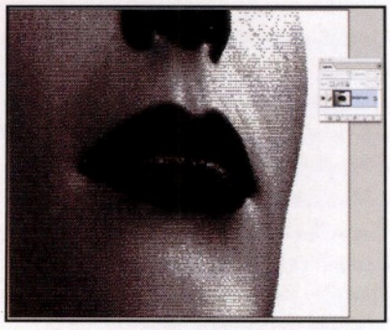


2 Create a new layer, and draw another gradient over the image from right to left. Make sure that the gradient fades to transparent, and set the foreground colour to 100% Magenta. Rename this layer 'gradient 1', then create a new layer and draw a few horizontal lines in white. Now create another new layer and, using the Rectangular Marquee Tool, create some white shapes. Set the layer's Opacity to 53%.

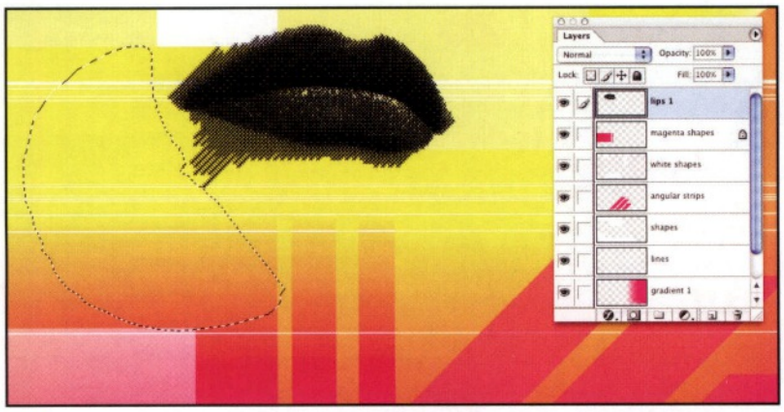
3 Create another new layer, and use the Polygonal Lasso Tool to make three angular strip selections. Fill them with C: 1%, M: 100%, Y: 1% and K: 0%. Set the blending mode to Hard Light, and the Opacity to around 55 per cent.



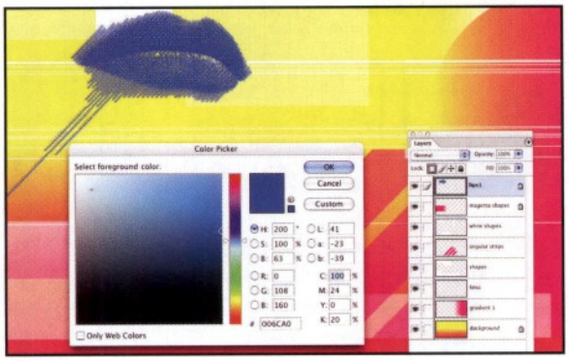
4 Create two more new layers, and add some new shapes, as above, using one layer for additional magenta shapes and the other for white shapes. Try filling them with a graduated tone, rather than a solid colour, and set their blending modes to Overlay.



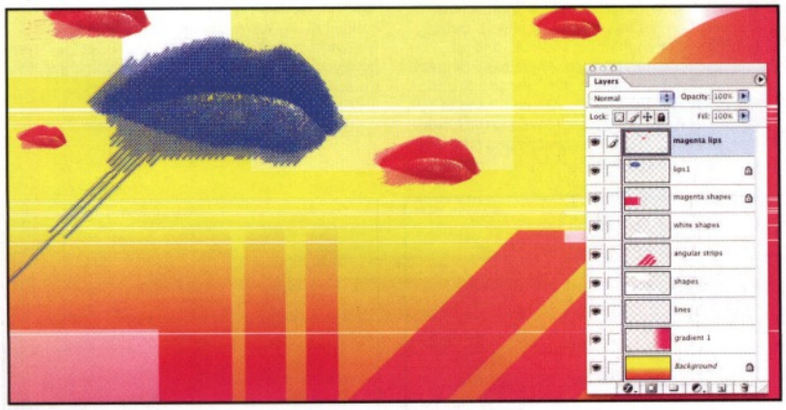
5 Open the lips1.psd DVD file, and convert it to bitmap mode. Leave Output at 72 pixels/inch, and choose Halftone Screen from the Method dropdown. Click OK, and set Frequency to 22 and Angle to 45 degrees. Select Round from the Shape dropdown menu and click OK.



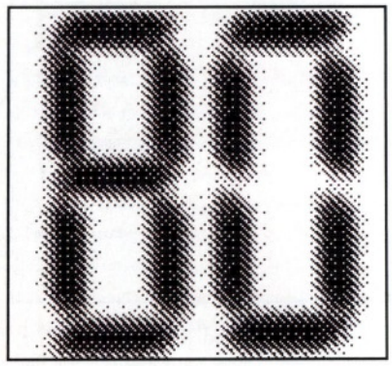
6 Convert the image back to Grayscale mode. Using the Magic Wand with Tolerance set to 1, select the black area of the lips. Copy the selection, then paste it as the top layer of your illustration. You may need to delete some parts of the pasted image to make it look like the image above; use the Lasso Tool for quick selection and deletion. Call the new layer 'lips1'.



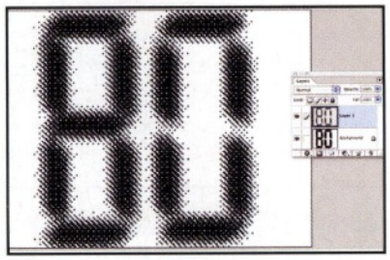
7 You may want to copy parts of the mouth shape to give it a trailing effect. Next, enable the Transparency Lock option for this layer, and fill it with a colour made up of C: 100%, M: 24%, Y: 0%, K: 20%.



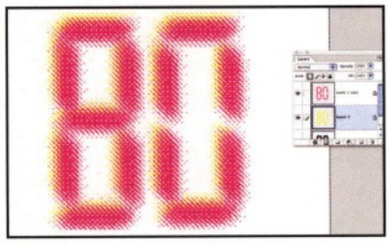
8 Go back to the lips.psd, and revert to the original saved greyscale image. Reduce it in size, apply the Halftone Screen process, and experiment. Now repeat the procedure you used for the first lips effect, paste the results into your document and fill them with magenta. You'll now have a number of lips within your illustration (see above). Don't resize or duplicate the blue lips, as this will soften the halftone effect; always create new ones.



9 Open the 80.tif file from the DVD, and add a Gaussian Blur with Radius set to 4.4 pixels. Click OK. Convert it to Grayscale, then to Bitmap. In the Bitmap dialog, select Halftone Screen and click OK. Set Frequency to 22 lines per inch, Angle to 45 degrees and Shape to Ellipse.



10 Convert the result back to greyscale, then CMYK. Now go to Select > Color Range, and use the Eyedropper to select the white background. Click the Invert button, then hit OK. The black should now be selected. Copy and paste it, so that you create a new layer within in this document.



11 Deselect, and then Ctrl/Command+click the icon for Alpha 3 in the Channels palette. Fill the area within your spot channel with solid white and deselect. Switch off the visibility of the CMYK channels for a moment, and you'll notice that your spot channel looks just like other alpha channels.

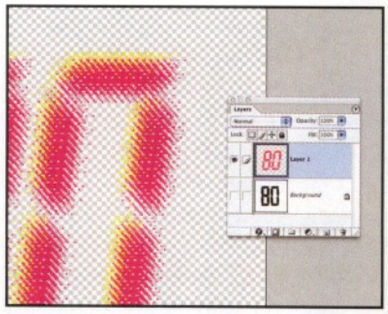
Edit before converting

To work in Bitmap mode, you must first convert an image to Grayscale mode. This will remove any Hue and Saturation from the pixels, leaving just the Brightness values. Make sure you do any editing of your image before converting it to Bitmap mode.

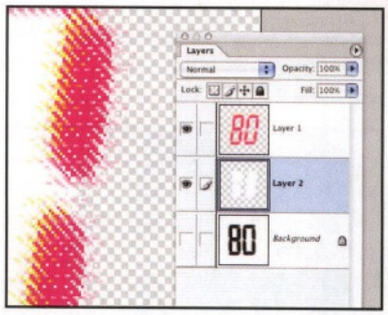
Create a halftone illustration... continued

Color Halftone filter

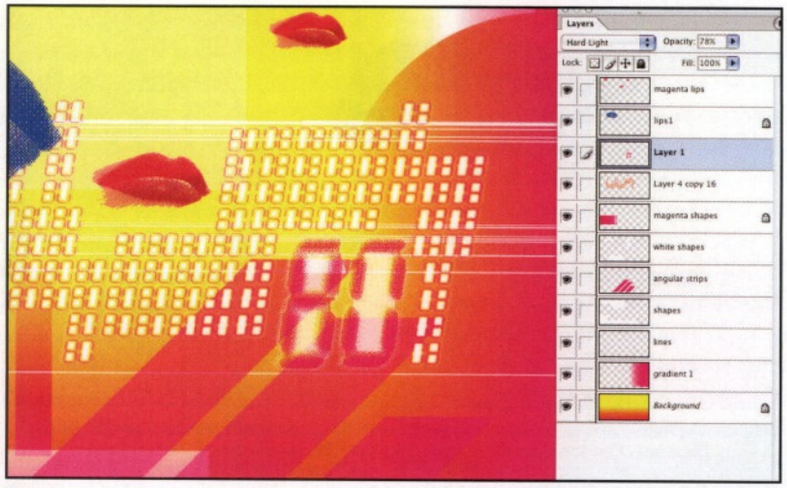
Rather than converting to Grayscale mode and then Bitmap mode, experiment with the Color Halftone filter from the Pixelate submenu. The filter will divide the image into rectangles, then replace each one with a circle. The circle size is worked out by *Photoshop*, and is proportional to the brightness of each rectangle.



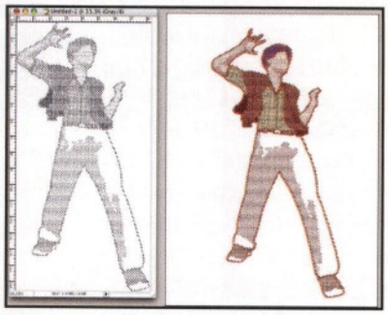
12 Now link the two layers together and merge them, then skew them slightly by choosing Edit > Transform > Skew. You may want to hide the background layer so you can see what you're doing.



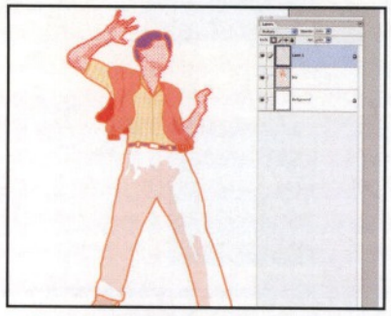
13 Using the Magic Wand Tool, select the outer area of the numbers. Invert the selection, and apply a white stroke of around 1 pixel. Create a new layer underneath this layer and, using the Polygonal Lasso Tool, fill the areas of the numbers with white again. Finally, merge this layer with the one above.



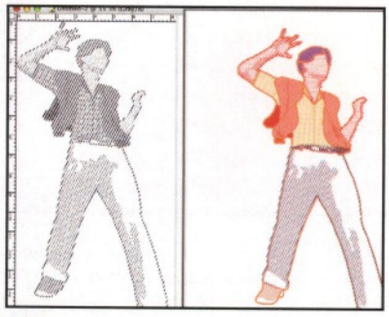
14 Copy and paste the layer into your illustration. Move the layer below the lips layer, and set its blending mode to Hard Light and Opacity to 53%. Copy this layer, and scale the numbers down. Copy the layer again, and repeat the process to form a new shape with the small numbers (as above). Merge these layers to reduce the file size, and set the new merged layer's blending mode to Hard Light.



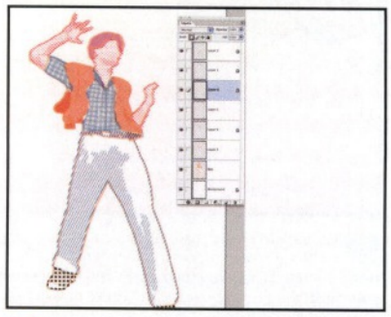
15 Open dancer_b_boy.psd from the cover DVD. Copy the boy layer, and paste it into a new document. Convert this image to a bitmap: Select the Halftone Screen method, click OK, and set Frequency to 22 lines per inch, Angle to 45 degrees and Shape to Ellipse. Now convert the image back to Grayscale. Use the Color Range command to select the white area, then click Invert in the Color Range dialog. Click OK. Finally, copy and paste over your original b_boy image.



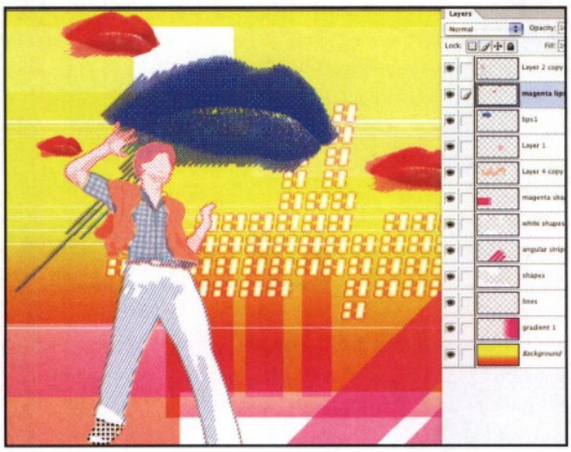
16 Hold down the Ctrl/Command key and the Alt/Option key, and click on the layer icon entitled Main Outlines in the Layers palette. This will subtract the contents of the Main Outlines layer from your current selection. In the spot channel, fill the selection with black and then deselect.



17 Zoom in on an area of the figure's hair, and use the Pen Tool to draw a closed path that resembles a thin highlight, similar to the highlights that already exist in the image. Generate a selection from the closed path, and fill the selected area with black within your spot channel.



18 Deselect, and use the Pen Tool to draw a number of similar closed-path components on appropriate areas of the hair throughout the rest of the image. Generate a selection from the path, and, once again, within the spot colour channel, fill the selected area with 100% black, then deselect.

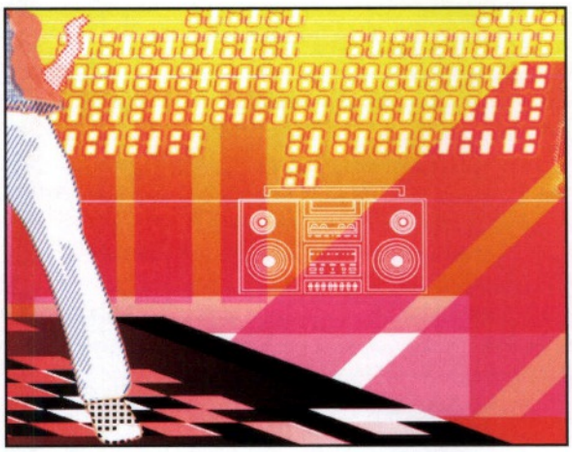


19 Now paste your figure into the main illustration as the top layer, and scale and position it so that it looks like the screenshot shown here. You may want to play around with the layer's colour balance a little to make it look more vibrant, and ensure that it stands out from the background.

20 Now we'll add some additional elements. Create a new document with a coloured horizontal blend. Convert it to Bitmap, and choose Halftone Screen. Set Shape to Squares, and experiment with the Frequency and Angle settings. Crop into the result, enlarge it, then keep adding halftone effects. Place the result underneath the figure, and use the Transform options to distort it.

Color Range

Use Select > Color Range to select your dots and lines. Either select the black area or the white area with the Eyedropper in the dialog box. You may need to invert the selection, depending on the colour you've chosen, then copy and paste it into your illustration. Remember, you'll need to convert your image back to Grayscale or RGB from Bitmap mode for the Color Range command to work.



21 Create a new document, and, using the Line Tool, draw a simple graphic ghetto blaster. Paste it in your illustration, and add some halftone effects if you want.

22 Finally, as a finishing touch, add a lowrider bike. This is built up over three layers. The top layer is just a stroke around the halftone effect, to give the subject a more defined shape. To complete the image, use the main opening illustration as a guide, adding extra elements and halftone textures as required to give the illustration more depth.

Time to experiment

This tutorial barely skims the surface of *Photoshop's* ability to generate halftone patterns. By experimenting with the Angle, Frequency and Shapes options you can create a range of effects; included here are some quick examples of Bitmap Halftone options. If you create a halftone, then scale up the result while still in Bitmap mode, the effects will be exaggerated but will retain their sharpness (anti-aliasing won't be applied in Bitmap mode).

PATTERN DITHER
First, turn a section of the figure from your illustration into a greyscale image, and covert it to Bitmap mode. In the Options dialog leave Output at 300 pixels, and choose Pattern Dither from the Method dropdown. Finally, double the size of the image while it's in Bitmap mode.

HALFTONE SCREEN
Using the same figure element, select the Halftone Screen method. Set Frequency to 99 lines per inch, Angle to 33 degrees, and Shape to Round. As before, increase the size of the image while it's still in Bitmap mode.

CUSTOM PATTERN
Using the figure element once again, select the Halftone Screen method. Set Frequency to 99 lines per inch, Angle to 33 degrees and Shape to Round. Again, increase the size of the image while it's in Bitmap mode.

FREQUENCY OPTIONS
To create something more linear, set the Method option to Halftone Screen, and set Frequency to 22, Angle to 180 degrees and Shape to Line. By adjusting the frequency of the halftone, you can now generate longer and thinner (or fatter and shorter) lines – the choice is yours.

Dynamic lighting

Giving your photo-montage an effective sense of depth and atmosphere is easy with Photoshop. **Derek Bacon** lets us in on a few secrets...

One of the best things about *Photoshop* (and there are quite a few) is the way it sits just as comfortably in the hands of the digital artist as it does in those of the photographer or graphic designer. What you have is total versatility from one extreme to the other: from complete handling of 'pure' photography to more 'painterly' illustration and graphic possibilities. But it's the creative free-for-all that exists between these two extremes that's the most exciting area for any digital artist.

The digital illustration process is almost always made up of three stages. Following the first stage – the initial brain-to-paper period – the next thing to do is to create a version in *Photoshop*. This stage is concerned only with putting all the necessary elements in place and getting the composition just right. The odd rough edge at this point isn't critical, and neither are the colours just yet.

The third and final stage of the process is the 'colouring-in' stage – the part where you draw and paint over the composition you've laid out. And it's here that you can start getting stylised, to work on bringing out the best aspects of your illustration. After all, a good idea is one thing, but how well you carry that idea off is another.

In this tutorial, you'll be taking over an illustration at this third and final stage. With all the elements in place, you'll be looking solely at adding depth to the scene with some dynamic lighting effects. First, you'll focus on enhancing the light and tone in one specific area of the picture, using techniques you'll then be able to apply to the rest of the scene. Finally, you'll cast a few shadows, to create an added sense of atmosphere. ■

Files on disc
DiscContent\Tutorials\Chapter2\Tutorials\Dynamic Lighting

Illustration by Derek Bacon www.derekbacon.com

Sorry.
subscr

Adding lighting effects to an image

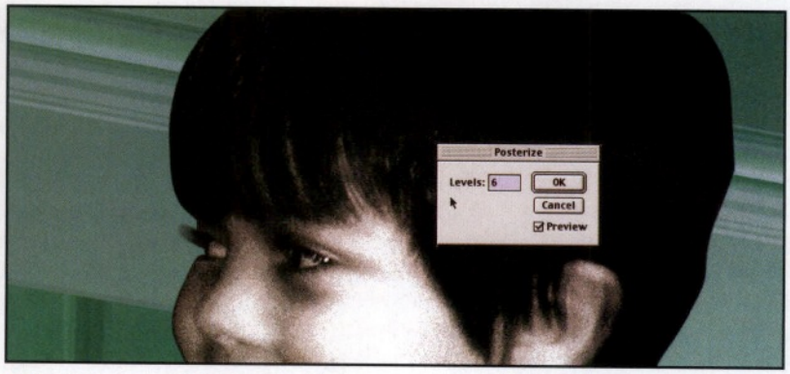
RGB or CMYK?

If you switch to full CMYK mode, you'll find that many filters no longer function, and also that all your delicate blues, greens and pinks have disappeared. You can retain full access to all the filters, and keep a check on how your colours will repro in the four-colour process, simply by turning on the CMYK preview (View > Proof Colors). You can then leave converting to full CMYK until the very end.

1 Open the file Biker_Joe.psd from the DVD. Create a path around the boy's head using the Pen Tool, and turn it into a selection by clicking on the dotted circle button at the foot of the Paths palette. Copy and Paste the head into a new layer, and desaturate it by choosing Image > Adjustments > Desaturate.

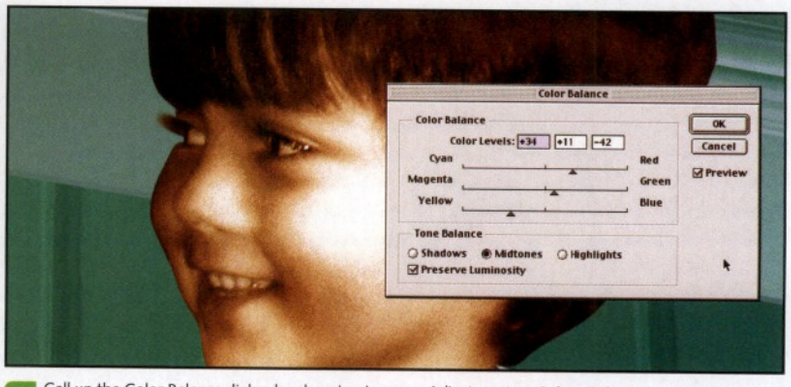
4 To create a punchier contrast, play around with the Brightness/Contrast controls by choosing Image > Adjustments > Brightness > Contrast. Find a setting that works, then add a little noise by selecting Filter > Noise > Add Noise: choose Gaussian, tick Monochromatic and set Amount to 6%.

2 To make the subject's skin tones appear as if they're being well lit from the top-right of the image, zoom in on the face and, using the Dodge Tool set to a large soft brush of about 150 pixels and 25% pressure/opacity (depending on whether you're using a graph pad/mouse respectively), start to manually lighten the areas where you would like the light to fall.



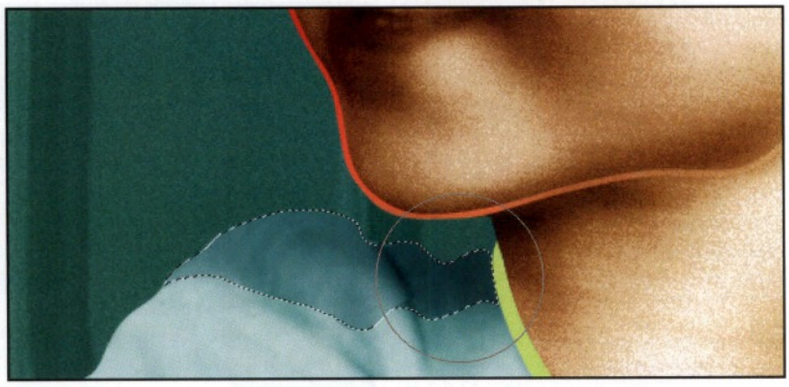
5 Now access the Posterize dialog by going to Image > Adjustments > Posterize, and set Levels to 6. Stripping out some of the grey tones in this way will generate more contrast, but because of the noise you added in step 4, the graduations from dark to light should be relatively smooth.

3 Now switch to the Burn Tool, and reverse the technique used in step 2 to subtly darken various areas, as shown. Now repeat steps 2 and 3, using different brush sizes and even softer pressures. This should give the face some extra form by further enhancing the light and dark areas.



6 Call up the Color Balance dialog by choosing Image > Adjustments > Colour Balance, and push the Color Levels sliders until they read R: +34, G: +11 and B: -42. Alternatively, play around until you get a skin tone you like. You can also subtly use the Dodge and Burn tools (see steps 2 and 3) at this stage to add more form to the face.

7 To create the effects you see on the hair, first repeat the techniques used in steps 1 through to 6. Then, using the Pen Tool, draw out a number of shapes across the hair. Convert the path to a selection, and, on a new layer, fill with white. Reduce the Opacity of this layer to about 20%.



10 Now to add more 'obvious' shading. Using the Pen Tool, path a neat area on the boy's shoulder. Make a selection from this and, on a new layer, fill the selection with black. With the Eraser Tool (select a large, soft brush at 30% opacity), start to rub away at the black.

Surface images

If the photo-montage process interests you, you'll need a collection of surfaces that you can use to build environments and other scenes. The background wall in this illustration, for example, is based on a couple of photos taken of a wall on Bournemouth Pier. You'll find that patterned surfaces of this nature will tile quite easily, to create much larger surfaces.

8 Now repeat this process, but this time vary the shapes you draw, and try filling the space with different colours, as shown. You could also try rubbing out the shapes with a large, soft brush, instead of reducing the layer opacity as before.

11 Repeat the shading process again across the boy's hands, concentrating on the area where the hands emerge from between the bike's handlebars and brake levers.

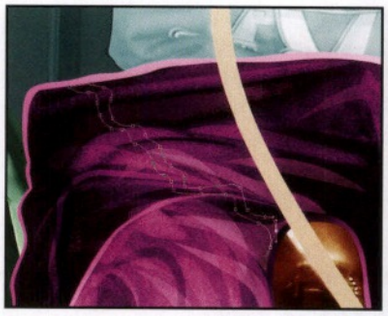
9 The techniques outlined so far in this tutorial are essentially the techniques that have been applied to every other part of the picture. You can use the same techniques over and over, isolating one area and treating it individually for form, contrast and colour, before adding any stylistic touches.

12 Now switch your focus to the boy's face. Using the same techniques as used in steps 10 and 11, create an area of shadow under his chin. Think carefully about the main light source, and the direction in which the shadows will fall.

Adding lighting effects to an image, continued

Slap happy

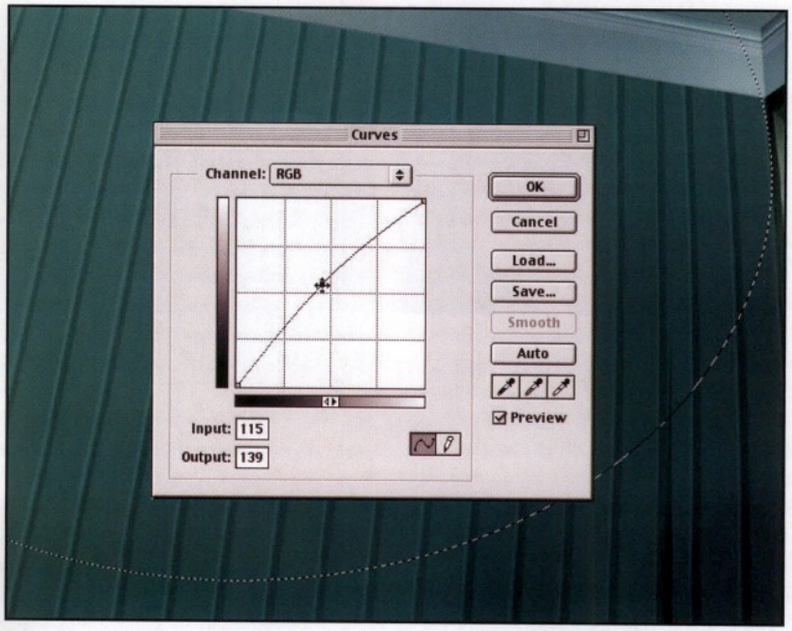
Photo-montage, as the name suggests, involves the cutting-up, rearranging and recolouring of basic materials such as photos to create something new. Once you become proficient at this technique, you'll develop complete command over these photo pieces, and get them to do exactly what you want. For example, the photo of Joe used throughout this tutorial is made up of seven different bits which, when pieced together, combine to create just the right stance.



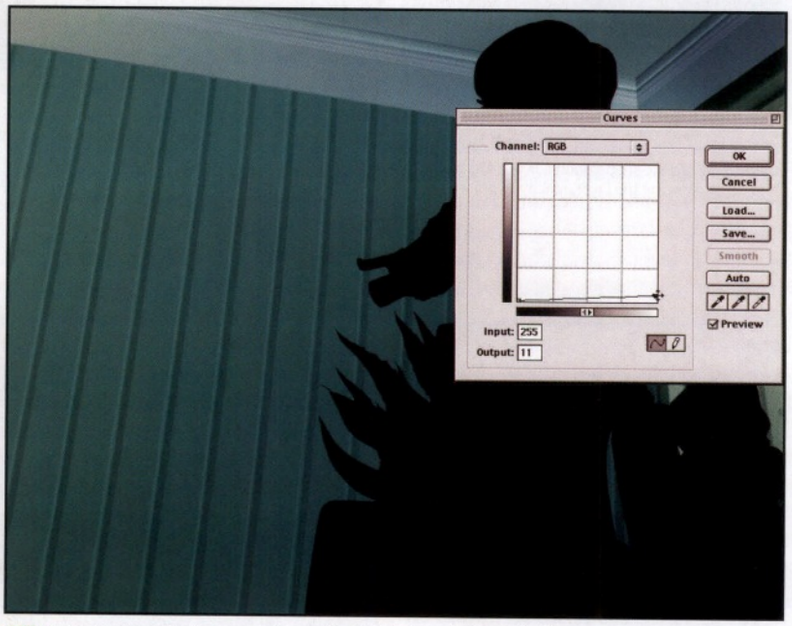
13 Continue to place areas of shadow in any parts of the image where you'd expect to see a shadow cast by a light source coming from the top-right. One tricky area, the trousers, requires a more complicated set of shapes and shadows if the natural creases and movement are to look convincing.

14 Once you're happy with the shadows cast across the image, turn your attention to the back wall. Go to the background layer, and use the Elliptical Marquee Tool to drag a large elliptical selection from the top-left, across the wall.

15 Now go to Select > Feather, and give your selection a Feather Radius of 250 pixels. Hit OK, then repeat the process three or four times.



16 Call up the Curves dialog by selecting Image > Adjustments > Curves, and drag the line up a little. Press OK, then invert the selection by going to Select > Inverse. Call up the Curves dialog again, and this time drag the line back down just a little. Check the results.

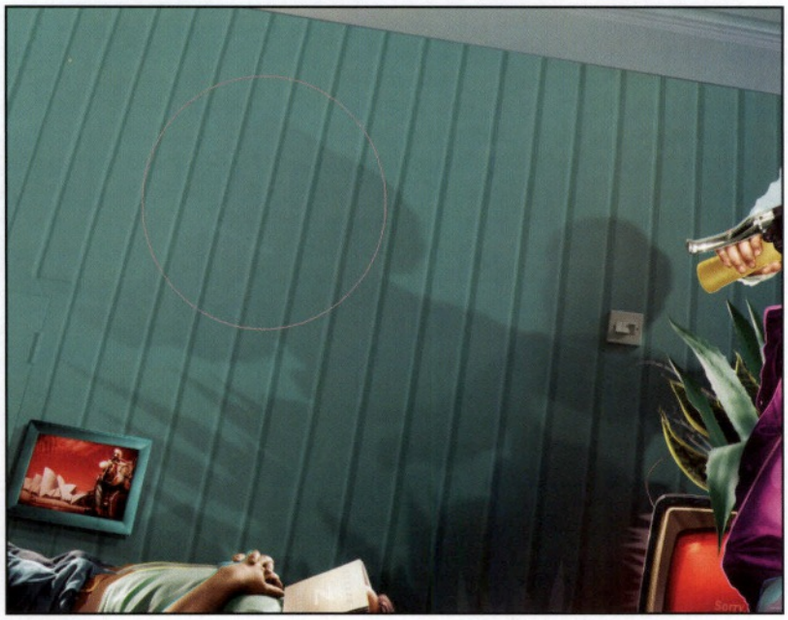


17 To cast the large shadow across the wall behind the boy, duplicate the foreground layer, call up the Curves dialog, and drag the top handle right the way down to the bottom of the grid; this will make the layer turn black.

18 Select Edit > Transform > Distort, and, by dragging the handles, distort the layer so that it starts to look more like a convincing shadow cast by the boy. Now add some Gaussian Blur by choosing Filter > Blur > Gaussian Blur, and entering a Radius setting of about five pixels.

19 Next, position this shadow layer behind the foreground layer, and, using the Eraser Tool with a large soft brush and Opacity set at about 30%, rub away at the black to create a more subtle shadow. For the best effect, rub away more of the colour from the left-hand side of the shadow.

20 A second, more dramatic shadow can be created in a similar way, but this time make the shadow stretch across the wall more by using the Edit > Transform > Distort option.



21 As in steps 18 and 19, position the second shadow behind the foreground layer, add a Gaussian Blur and start to rub away a little at the shadow with the Eraser Tool.

22 Once you're happy with the shadow effects you've created across the image, save your layered file somewhere safe and then save another, flattened copy. This flattened copy can then be converted to CMYK, ready for printing.

Drop shadow

The drop shadow effects available under *Photoshop's* layer styles options are great for most things, but if you're after a little extra flexibility you might prefer to create drop shadows the old-fashioned way – by duplicating a layer, turning it black and manipulating it from there. The benefit? Because this 'manual' shadow is a layer in itself, you can transform it as you would any other layer.

Illustration by Derek Lea www.dereklea.com

Burn effects

Using alpha channels, blending modes, and thermal fax paper – and a hairdryer, you can simulate the look of aged sheets of parchment. **Derek Lea** brings burned paper into Photoshop, and works a little layer and channel magic

Burnt paper is great for creating parchment-style effects, and burn marks generated by applying a hairdryer to a sheet of thermal fax paper, and scanned in black and white, are ideal for alpha channel use. Because channels interpret greyscale image data, and convert it into selections, you can easily use what you've created with the hairdryer as the basis for a custom-made selection.

When the new selections are combined with layers, things get really interesting. Making use of existing colours within the image, and stacking up layers with varying blending modes and Opacity settings, is a versatile and effective way to create 'aged' paper. You can place the stacked layers neatly into sets, where they're collectively masked with precisely drawn paths, so that the aged effect of one page doesn't stray on to another, or into the background area. You can then mask (and edit) each layer individually within the set.

Before you start work in *Photoshop*, you'll need to return to more primitive art-making techniques. First, you need to print out your sketches, run them through a fax machine so that they're copied on to thermal paper, and then darken the thermal paper using a hairdryer. Having done this, you can scan the results into *Photoshop* for use within individual alpha channels.

Using unusual real-world techniques can prove surprisingly fruitful in your *Photoshop* work – and it's fun when you hit upon something that works as well as this. ■

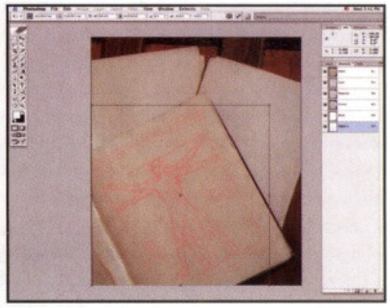
Files on disc
DiscContent\Tutorials\Chapter2\Tutorials\Burn Effects

Creating burnt paper effects

1 Open the files man.tif, head.tif and hand.tif from the DVD. Print out each one so it fits on a standard-size piece of paper. Now take the prints to a fax machine, and copy each one on to a separate sheet of thermal paper.

2 Tape each sheet to a flat surface, and use a hairdryer on its hottest setting to darken areas; you'll notice that the effect spreads and gets darker as you apply more heat to a single area. Continue until you've burned each copy considerably.

3 Run a couple of plain sheets of paper through the fax machine to make blank copies on thermal paper. Use the hairdryer on these sheets, but to darken them around the edges only. Make each one a little different.

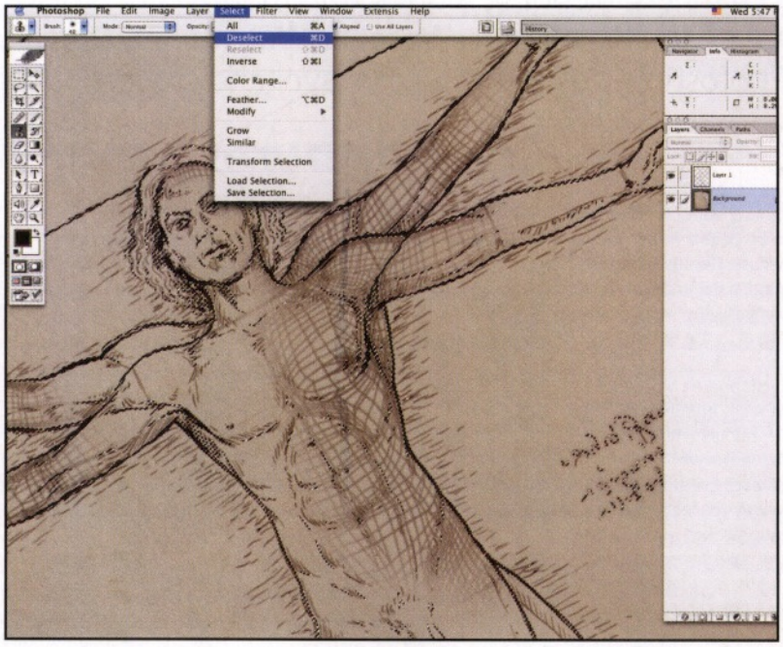


4 Open the file man.tif from the cover DVD. Copy it, and open the file main.tif. Create a new alpha channel in the main.tif file, and paste the man image into the alpha channel. Enable the visibility of the composite channel, and use Free Transform to position and scale the pasted selection on the main page.

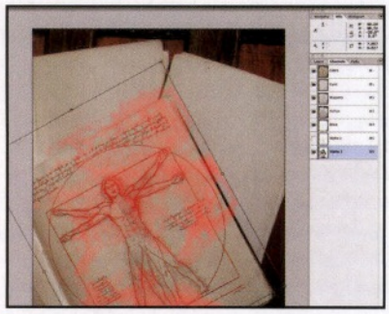
Creating burnt paper effects... continued

Channel options

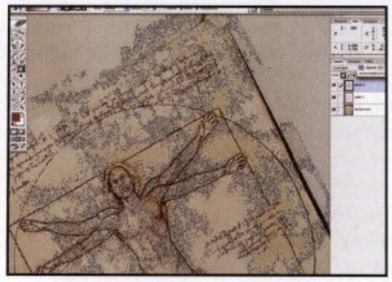
The easiest way to work through this tutorial is to alter the behaviour of your alpha channels from their default settings. To do this, select Channel Options from the Channels palette menu, and change the colour indication to Selected Areas instead of the default Masked Areas setting. This generates a selection containing black areas of the channel within the selection border; white areas will lie outside the selection borders.



5 To get the best result, you may have to adjust your channel options, or invert the image, before pasting it. Generate a selection from the channel, invert it if necessary, and create a new layer with a Multiply blending mode. Fill the selection with a brown colour sampled from the background, then choose Deselect.



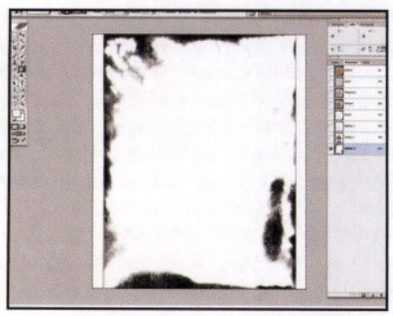
6 Scan the burned thermal copy of the man image using a desktop scanner. Copy and Paste it into a new alpha channel in your working file. Enable the visibility of the composite channel, and use Free Transform to position the pasted selection so that it lines up perfectly.



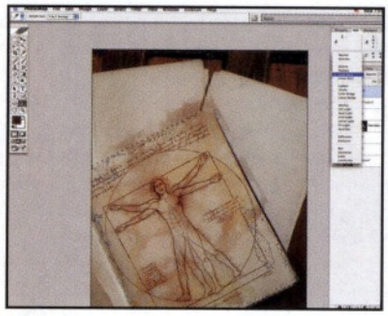
7 Generate a selection from the channel, and invert it if necessary. Create a new layer, and fill the active selection with a light brown colour sampled from the background. Change the layer's blending mode to Color Burn, and reduce the Opacity to 46%.

8 With the selection still active, create a new Hue/Saturation adjustment layer. Increase the Saturation to 61 and decrease the Lightness to -9. Create a new layer with a Color Burn blending mode, and reduce the layer Opacity to 30%. Reload the previous selection from the alpha channel.

9 Select the Gradient Tool, choose the Radial type and select the Foreground to Transparent option from the Gradient picker. Sample a reddish-brown foreground colour from within the image, and draw several gradients within the selection on the new layer to add dark areas. Duplicate the layer, and set its blending mode to Multiply.

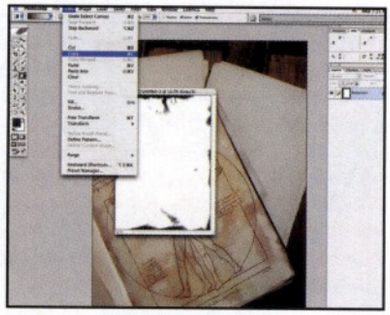


10 Deselect, and apply the Gaussian Blur filter to the layer contents, using a very high Radius setting of around 30 pixels. Now scan the two blank thermal pages to which you applied the hairdryer burn effect. Copy one of the scans, and paste it into a new alpha channel in the working file.



11 Enable the visibility of the composite channel, and use Free Transform to resize and rotate the contents of the channel so that it fits within the main page area. Generate a selection from the channel, and invert it if necessary. Create a new layer with a Color Burn blending mode.

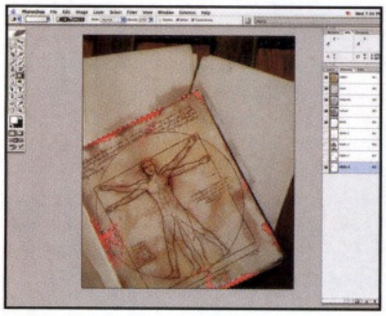
12 Fill the active selection with a brown colour sampled from the background, and reduce the opacity of the layer to 15%. Duplicate the layer and change its Blending Mode to Multiply, then, with the selection still active, create a new layer with a Multiply blending mode.



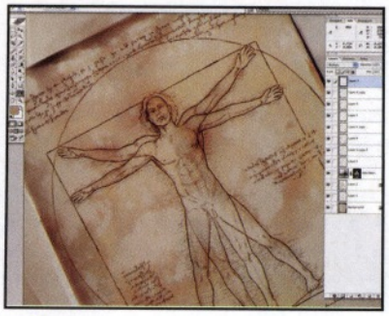
13 Select the Gradient Tool, and as before choose the Radial type and select the Foreground to Transparent option from the Gradient picker. Using the current brown foreground colour, create a few gradients within the selection on the new layer. Deselect, and return to your other scan of the burned blank thermal paper. Hit Select All, then Copy.

Gradient options

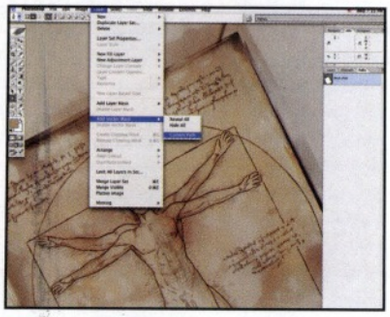
The Foreground to Transparent gradient option is an effective way to introduce colour to specific areas without filling the entire background each time you create a gradient, and it's an excellent way to add more than one gradient within a selection border, or on a layer. The Foreground to Transparent gradient is the second option from the left in the top row of the Gradient picker, which is accessed by clicking the arrow to the left of the gradient preview in the tool options bar.



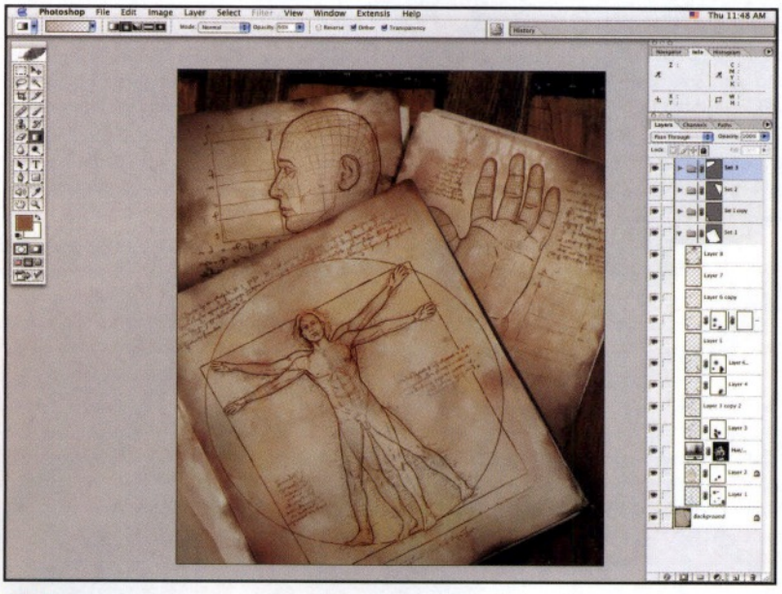
14 Create a new alpha channel, and paste the selected area from the other file into it. Enable the visibility of the composite channel, and use Free Transform to resize and rotate the pasted selection until it frames the page like the previous channel. Generate a selection from the channel.



15 Employ the techniques you used earlier to fill the selection with darker colours on a series of layers with varying blending modes and Opacity settings. Draw Radial gradients inside the selection where required, and deselect when you're finished.



16 Create a layer set, and add all the layers except the background layer to the set in order, from top to bottom. Use the Pen Tool to carefully draw a closed path around the edge of the page. With the path selected, choose Layer > Add Vector Mask > Current Path from the menu to create a sharp edge.



17 Feel free to mask and edit any of the layers within the set, or create any new layers you think are necessary. Use the methods outlined above to apply the effect to the head and hand sketches, too. Give each one its own set of burns, and use a stack of layers to create the desired effect.

Advanced Brush Tool effects

Use your brushes wisely and imaginatively to create stunning fantasy imagery...

Many *Photoshop* users work with the software for years without fully exploring the wealth of features and options contained in the Brushes palette, and those who like to rely on filters to create special effects are missing out on a whole new world of creative possibilities.

How many of us have reached for the basic brush-based tools for the occasional minor adjustment or retouching job? You know the story: the Magnetic Lasso Tool hasn't quite cut the shape perfectly, so you choose a default Eraser brush that looks about the right size, make a few simple strokes, and you're done. But saving the brushes for such moments is akin to keeping a set of expensive artist's materials handy in case you need correction fluid.

Of course, if you're into illustration it's imperative to exploit the potential of the brushes, but this doesn't just apply to digital painters. If brushes are used wisely, they can add impact to all kinds of images; it's just a question of learning what they can do, and letting your imagination do the rest. In this tutorial, you'll learn about some of the more advanced brush configuration options in *Photoshop CS*, as we create an aerial kung fu fight over a volcano – so get yourself psyched up for a bout with your digital paintbrush...

Expertise by Sam Gilbey, an illustrator, writer and web designer. See more of his work at **www.personalspaceinvaders.co.uk** or contact him at **sam@pixelsurgeon.com**.

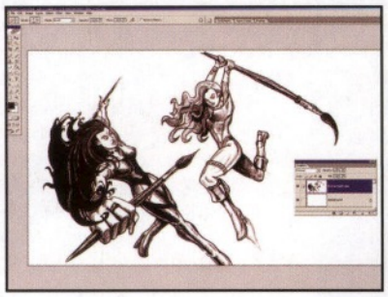
The sketch.jpg file needed to complete this tutorial can be found on your cover DVD at: DiscContent\Tutorials\Chapter2\Tutorials\Brush Effects

Part 1: Composition

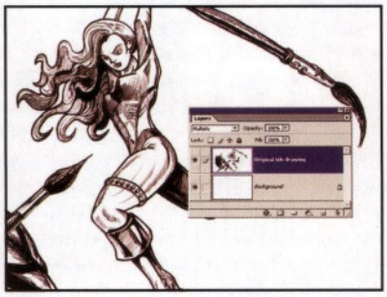
Before putting any paint on your brushes, here are some basic tips...

Save yourself

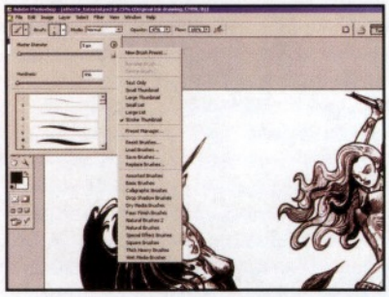
Saving your own custom brushes can be extremely useful if you ever need to produce a series of pieces, and it's actually a great way to consolidate your materials. Once you've got a brush that you think you're going to use a lot, just click on New Brush Preset at the top of the Brush Preset picker menu. Keep your naming convention related to the tasks the brushes will be used for.



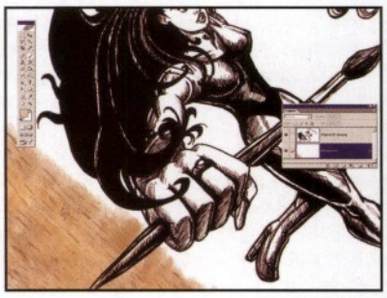
1 Download sketch.jpg from DiscContent\Tutorials\Chapter2\Tutorials\Brush Effects. Duplicate the Background layer, then click on the bottom layer and hit Ctrl/Command+A to select all. Delete the content of the layer, ensuring that your background colour is white. This is where we'll build up the atmosphere.



2 To 'see through' the top layer, change its blending mode from Normal to Multiply. Rename the layer 'Original ink drawing', and save the .psd file to your hard drive. Playing around with brush dynamics is fun, but it takes a while to get familiar with the various settings, so make plenty of saves, and use multiple layers.

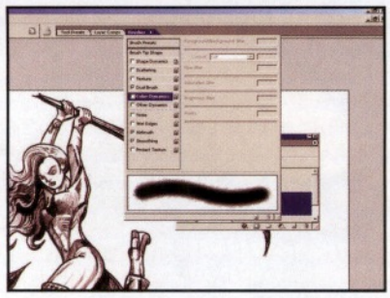


3 With the Background layer selected, choose the Brush Tool. Click on the small arrow next to the brush stroke preview at the top of the screen to open the Brush Preset picker, then click the top-right arrow to open the palette menu. Change the current set of brushes to Dry Media Brushes.



4 Scroll down the list of brushes until you get to the Hard Charcoal Edge brush (you can switch the preview between lists and thumbnails from the menu). Set the Master Diameter to 135 and Opacity to 50%, and choose a midtone beige. Build up large, overlapping angled strokes in the bottom-left of the image. Use smaller, darker strokes for the table grain.

5 From the same brush menu, select the fourth brush from the top, the Soft Oil Pastel. On a new layer called Sketchbook, draw in the pages using different tones, brush sizes and opacities. This is your first chance to create textures before we move on to the more elaborate effects, so take the opportunity to play around.



6 Now we want to work the main colours into the backdrop, but we don't want it to look flat. In the Brush Preset picker menu, above the list of brush sets, click on Reset Brushes. Select the brush from the bottom of the menu, setting the size to 350 pixels. Press F5 to open the Brushes palette.

7 Take a few moments to look at the options, but for now just turn on Scattering. In the Scatter section, drag the top slider to 200%, and set Count to 3; note how the brush preview changes. Start painting the main colours, experimenting with the brush size, Scatter and Opacity options.

8 More texture is required, but to keep the backdrop atmospheric, and not intrusive, keep the same brush. Start on the volcano first, keeping the Scatter setting high for the rocks, and especially the lava. Select Other Dynamics from the Brushes palette, and enable the Opacity Jitter option to bring the volcano to life.

9 Another powerful way to save time is by enabling the Color Dynamics option within the Brushes palette. Using the bottom brush from the Natural Brushes set, try adjusting the amount of jitter for the Hue, Saturation and Brightness sliders. With Opacity set to below 50%, add craters to the moon, and highlights to the clouds.

Part 2: Colouring the characters

Try some new techniques, and improve your character-development skills...

Tool presets

Saving regularly used brushes as tool presets means you can change between them with ease, bypassing the full brush lists; if you're combining techniques in quick succession to build up an effect this can really improve your efficiency. With the Brush Tool selected, click the arrow next to the brush icon at the left of the tool options bar to open the Tool Preset picker, then choose New Tool Preset from the menu.

1 It's time to introduce our main characters. Create a new layer called Characters, making sure it's still beneath the original ink drawing. To get a convincing comic book feel, paint flat colours using brushes from the Calligraphic set. Yes, you're just colouring in, but it needs to be done!

2 Of course, the characters look particularly flat now, especially against the textured backdrop. Keeping beneath the ink drawing, and still using the Calligraphic brushes, paint in highlights and shadows along the appropriate contours. Think about how the backdrop might reflect colour and light on to the characters' skin and costumes.

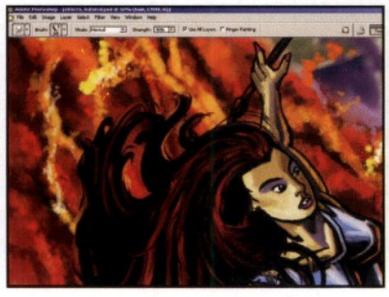
3 Calligraphic brushes are sharp and precise, but they leave a harsh edge. So select the Smudge Tool, set Strength to 90%, and change the brush size to 60 pixels. Untick the Use All Layers and Finger Painting options if you need to, and blend the shadows and highlights together.

4 Back to the brushes. Some of the outlines need to be a bit bolder, so select the Permanent Marker – it's the 13th brush in the Dry Media Brushes list. Make sure your foreground colour is black, and work around the main characters on a new layer above the drawing.

5 Now select the Oil Medium to Large tip, which is the 19th brush in the Wet Media list, and using the cross-hatching from the drawing beneath as a guide, start to render the characters in colour. Keeping the brush Opacity set below 50%, smoothe out the characters, and add sheen to the edges.

6 Start a new layer called Hair. You'll need to work on the hair in two stages. First of all, using the same brush, add some strokes that roughly follow the shape of the hair from the drawing. Vary the colours, keeping a high contrast between the darkest and lightest tones.

7 Select the Smudge Tool again, then load the Assorted Brushes set and scroll down to Ornament 6. This is like using a paint-laden comb, and you'll be able to create sleek, shiny locks. Work in more colours until you get the desired effect.



8 Apply the same technique to the other character, but in this case you don't need to add too much colour. Stick to black and red, making sure in both cases that you have the Use All Layers box checked. This enables you to incorporate additional tones from the drawing beneath.

9 It's not all about the special effects of course – in fact, they can only work if you've done the hard work beforehand. Add a new layer called Character Accessories, reset the brushes to the default set, and use the simple airbrushes to work more details into the characters.

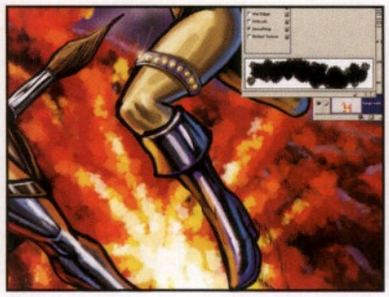
Part 3: Effects time

Use some more advanced techniques give your piece real impact...

It's good to experiment

Hopefully we've given you a glimpse of the kind of effects you can achieve with *Photoshop* brushes, but it's really just the beginning. As you follow the steps, you might be tempted to take things in your own direction, just because the possibilities are so massive. If that's the case, then go for it. You can never experiment too much, because that's how you forge your own unique style.

1 All the volcano effects are a little distant. Load the Special Effects Brushes, and select the top brush, the Azalea. Set the Diameter to 70 pixels and the Opacity to 70%, and open the Brushes palette. Uncheck Color Dynamics, but turn on Scattering: drag the Scatter slider to 200%, and set Count to 4.

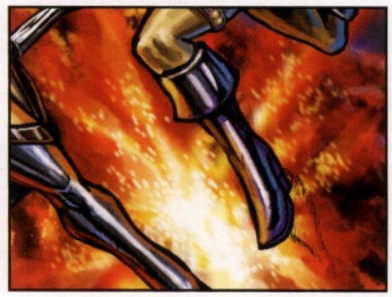


2 Create a new layer beneath the characters but above the volcano, and paint some deep red strokes that roughly resemble the direction of a flame bursting from the surface. Then work inside the red with an orange, using a smaller brush, then add yellow, then more orange.

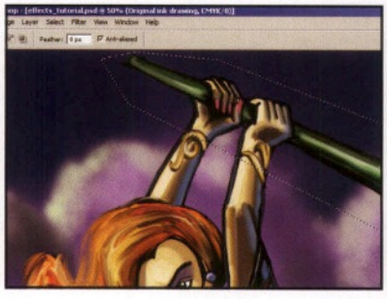
3 The scattered Azalea brush strokes have saved us some time, but the effect doesn't look particularly like fire yet. Open the Filter menu, and go to Blur > Radial Blur. Set Method to Zoom and Distance to 30, then position the Blur Center as close to the root of the flame as possible.

4 Almost there. Now select the Smudge Tool again, and choose the Drippy Watercolor brush from the Special Effects Brushes menu. Starting from the outside of the flame, drag the colour around until you have something that looks like licking flames. Now you just need a few sparks...

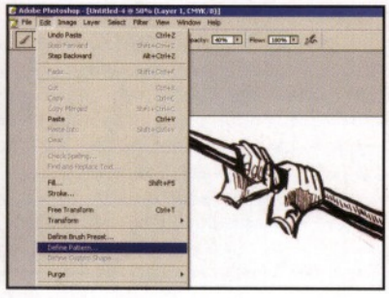
5 Go back to the default brush set, and choose the 19-pixel diameter brush. In the Brushes palette, set the Scattering to high, but make sure the Count setting is very low. On a new layer, paint some white specks working out from the centre of the flames, gradually making these fainter.



6 To add some dynamism, go to Filter > Blur > Motion Blur. Set Angle to -53 and Distance to 28, and then press OK. Now combine the brush effects with another technique: go to Layer > Layer Style, and select the Outer Glow option to create extra impact.



7 Now we're going to create a custom brush, so that we can apply a motion trail to the sweep of the right-hand character's brush. Select the 'Original ink drawing' layer, then select the Polygonal Lasso Tool, and draw a rough marquee around the weapon.



8 Copy the selection, then press Ctrl/Command+N to open a new document: it'll be set to the size of the marquee boundary you just defined. Paste in the brush, then click on Edit > Define Brush Preset, and name it Brush Trail.

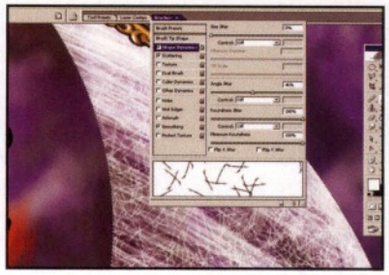
9 Return to the main document, deselect the marquee, and reselect the Brush Tool. Scroll to the bottom of the current brush selection, and choose the new preset you've just created. Set your foreground colour to white, and the brush Opacity to 40%, and build up a ghostly trail with the brush on a layer beneath the characters.

Effects time, continued...

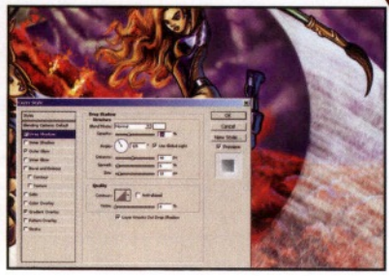
Don't lose your balance

Once you've seen the kind of effects you can achieve with *Photoshop* brushes, it can be tempting to use them at every available opportunity. We've shown you a range of applications within an image designed specifically to showcase them, but try to exercise restraint, and incorporate then into your own pieces as and when they're appropriate. Remember, the best special effects in movies are the ones you don't notice at all!

10 Use the Elliptical Marquee Tool to demarcate the weapon's motion trail. Zoom out to draw large enough ellipses, and hold down the Alt/Option key to cut the inner edge of the ellipse. When you're pleased with the shape of the trail, go to Select > Inverse, and delete everything outside the selection.



11 You can adjust your custom brush as you would any other. Select the inverse area again, and select your brush. Set the Diameter to 100 and the Opacity to 80%, and under Shape Dynamics in the Brushes palette, drag Angle Jitter to 46%: hey presto – cool sparks!



12 To make the motion trail as convincing as possible, apply a subtle Motion Blur to the selected area. Then go to Layer > Layer Style and apply a glow, a gradient fill that fades from transparent blue to full white, and a bright drop shadow to diffuse the effect further.

Part 4: Finishing touches

Apply your brush skills in new ways to complete the piece...

Test your skills further

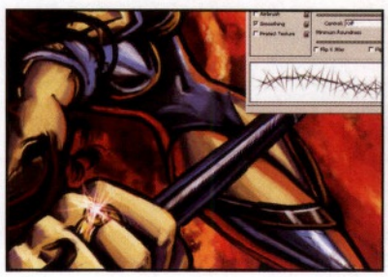
If this glimpse of the potential of *Photoshop* brushes has whet your appetite, you might be wondering how you can continue with the experimentation. It's never very satisfying to just sit in front of a white canvas doodling, so set yourself a task: space themes lend themselves well to the pyrotechnics that the brush options facilitate, so why not try interpreting a favourite scene from a sci-fi movie?

1 Beneath the 'motion trail' layer, add a 'rocks' layer. We're going to combine one brush with another, and paint some rocks spewing from the volcano. Load the Natural Brushes 2 set, and select Chalk – Dark. Open the Brushes palette, and tick the box next to Dual Brush.

2 Click on a few brushes from the Dual Brush menu, and note how the brush preview changes – this is a useful technique if you can't find the attributes you need in any single brush. Select Wet Brush 60 pixels.

3 Pick a deep brown colour, making sure that the Opacity is set to 60% and the Flow is set to 100%. Use your dual brush to paint some strongly textured rocks. Add various tones and highlights to give the rocks depth and form, and paint a stuttering flame trail, which you can blur slightly.

4 To enhance the impression of movement in the right-hand character, select the bottom Wet Media brush. Set Opacity to 94% and Diameter to 102 pixels, and paint bright blue streaks behind the motion trail and around the character to create a forcefield effect. Apply a 'Spin' Radial Blur.



5 To make the left-hand character's ring sparkle, load the Assorted Brushes set, and select Crosshatch 4. Set the Diameter to 200, and, in the Brushes palette, set Angle Jitter to 95% under Shape Dynamics. In a new layer, click the same spot a few times, and add a subtle red Outer Glow style.

6 Using the techniques you've learned in this tutorial, you can now carry on and add a few more finishing touches as you see fit. Put some spiral binding on the sketchbook, add some paint to the brushes, and so on. Remember to try and keep the whole image nicely balanced. ■

The Port Town
of Coldcast
The village
of Scuttlerock
Berryridge
The Northern
Plains
The village
of Coldvein
The village
of Snakewagon
The village
of Percy
The Golden
Valley
Bandit's Run
The Capitol City
Winnerham
The village
of Pigquick
The village
of Manxoth
The Lighthouse
Township Kallion
The Coastal
Town of Manco

Illustration and tutorial by Dave Curd [w] www.davecurd.com

Textured brushes

Dave Curd pushes your drawing, typesetting and rendering skills to the limit as he shows you how to combine Photoshop and Illustrator to create an authentic, weathered treasure map using custom brushes, textures and typography

Strengths and weaknesses: we all have them. Some people are masterful designers, balancing type and colour with ease, while others excel at illustration, pulling wonderful characters and landscapes from the ether. The goal of this tutorial is to create something that incorporates both disciplines – a good old-fashioned pirate map!

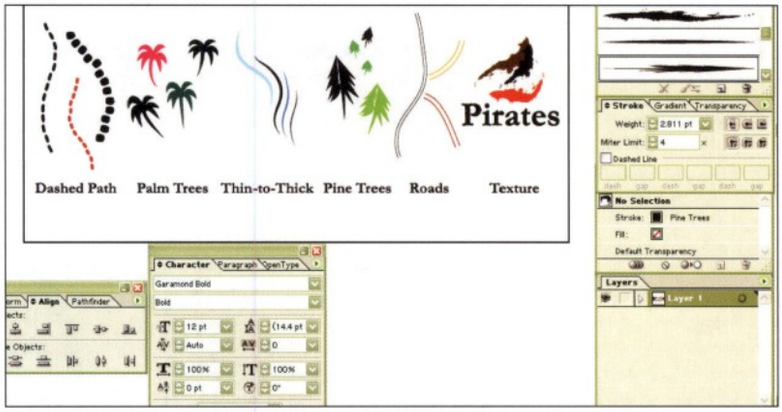
This blueprint to the booty combines old-style illustration with typesetting and important attention to detail. Maps of any kind are huge time sinks, and you could spend hours rendering and hand lettering; fortunately, both *Illustrator* and *Photoshop* can help to reproduce the texture, character and, most importantly, the human hand in a fraction of the time of traditional media.

This tutorial is broken down into four sections. First you'll configure custom brushes that can reproduce key elements of the map in one stroke: trees, roads and even rough, brittle texture to age your type. Then you'll use those brushes to create the map, and learn to reuse assets – an important part of any project where time is of the essence. Next, you'll introduce typography to your spartan landscape, giving Garamond a facelift to better fit with the theme, and finally you'll jump to *Photoshop*, where you'll age, distress, and colour your illustration.

By the end of this tutorial you'll have created a complex image that's tested your drawing, typesetting and rendering abilities. You'll have a better idea of the relationship between *Illustrator* and *Photoshop*, and hopefully you'll be inspired to push onwards with your own ideas.

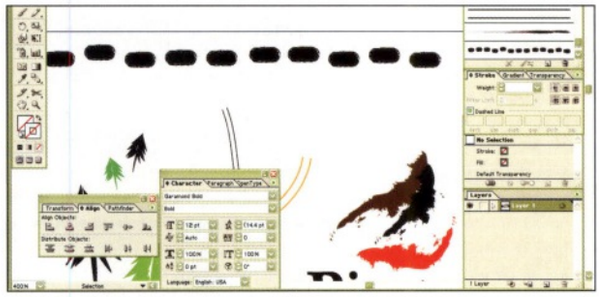
Files on disc
DiscContent\Tutorials\Chapter2\Tutorials\Textured Brushes

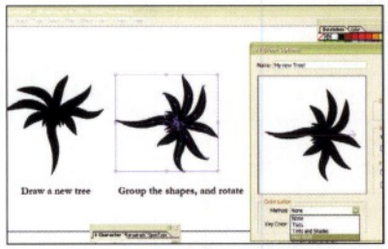
Creating a treasure map



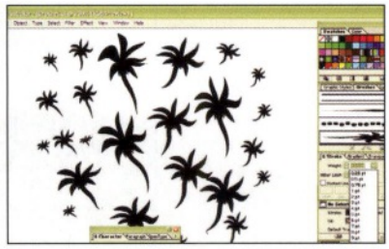
1 Open the Brushes.ai file located on the DVD. Here you'll find the brushes that you'll use throughout this tutorial. Before you get started, take a look at how each of the brushes is built.

2 Left-click on the brush named Dashed Path in the Brushes palette, and drag it on to your work area: this brush is just a series of off-kilter rectangles with roughened edges. Drag out all of the brushes, and note the simple construction of each.





3 You can customise the brushes to your suit your needs. For variety, sketch a simple palm tree using the Thick-to-Thin brush. Once satisfied, select all the brush strokes, group the shape, turn it on its side and then pull it into the Brushes palette. Now name your new brush.



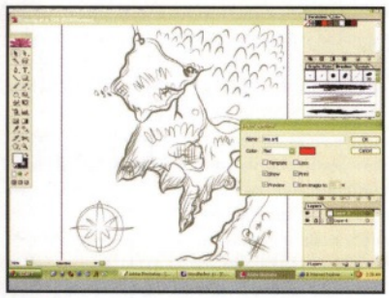
4 Now you can work out how your new brush will appear when you use it. Note that a quick stroke of the Pencil Tool (N) will yield the best results. You'll notice that the tree will warp and distort depending on the length and direction of your stroke, and its scale will be dictated by the stroke weight you use.

Creating a treasure map

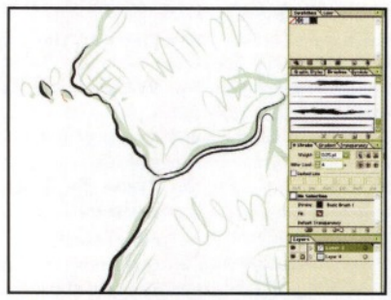
Typing on paths

With the glut of arched and bulging path-based type treatments being used, it's easy to assume that anything other than basic, clean typography is garish. But this is a pirate map, and having some of your type arched to better fit on the map will add charm and authenticity to the image. Keep in mind that there are situations in which bad design is the best design. Avoid consigning current type rules and trends to the past – or the future for that matter – and use the internet as a reference.

5 At this point, take a few minutes to try out all of the brushes. Doodle, sketch and play around with the size to see what happens. It's important that you get a feel for what these brushes can do, as in the next step you'll start drawing the final image. Once you're comfortable, close brushes.ai, and open drawing.ai.



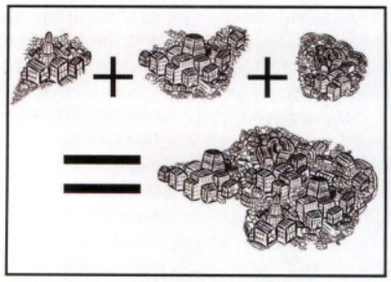
6 The drawing.ai file is just a basic, sketched line drawing that should give you an idea of how your final map will flow. The Sketch layer is locked, so create a new layer to work on top of, and name it Line Art. Now you can really get started.



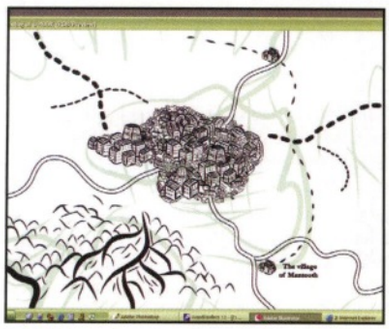
7 Use the Thick-to-Thin brush to outline the coast. Note that you can't build the coast with one giant stroke; you'll need to use several short, connecting strokes. Change your stroke's line weight to add visual variety.

8 Once you have your coast defined, you can populate your landscape with mountains and hills. You should still be using your Thick-to-Thin brush at this stage. Remember, this sketch layer is only a suggestion, so if you want to feature more or less mountains feel free to do so.

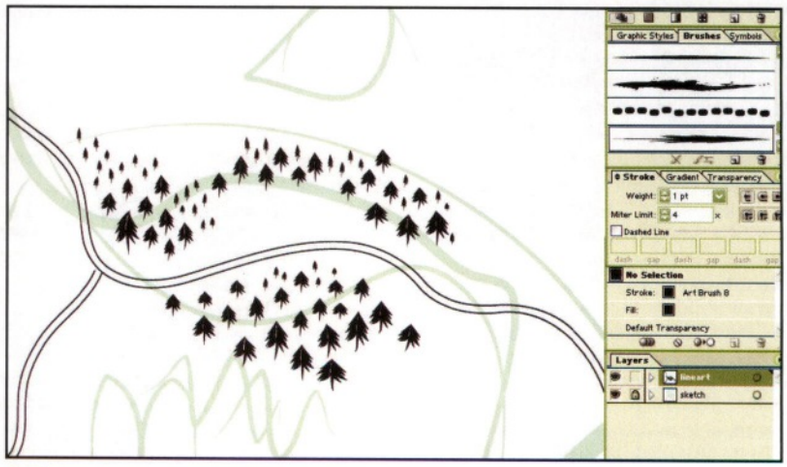
9 Now for the cities. Find a good spot on the coast and get drawing. The level of detail is up to you, but I find that three to four fleshed-out buildings surrounded by little suggestions of houses works best. Make sure each town has something unique – a lighthouse or temple, for example.



10 Now start reusing assets. Once you've built two or three little towns, you have the components to build cities. Grab towns and combine them, drawing quick suggestions of houses to make the puzzle fit together. Make one city really big to create a capital.



11 Cities need roads, so now's the time to make them. Use the Roads brush for the highways, and the Dashed Path brush for the secret Pirate route. Then, using a very small Thick-to-Thin brush, you can create a distressed dashed line to suggest trails, or smaller roads.



12 Now you can start work on the trees. Use the Pine Tree brush in the north of the island, and the Palm Tree brush in the south. For each little cluster the lowest trees should have the largest stroke to suggest depth in the little forests. In desert areas, keep the trees sparse.

13 For the type, use Garamond (or any other fancy, serif font) to name all of the important landmarks you've created. You can now size the type to reflect importance: from big to small I'd go region name, capital, town, village. Once happy, select the type, choose Create Outlines [Shift+Ctrl+O] and apply a small stroke of Texture.

14 To finish off the line art, continue to populate the map with hills, mountains, hideouts and more. An ornate compass, crossed swords, or even a pirate's portrait would fit nicely here, and don't forget the all-important X! Once you're happy, save your file and then open it in *Photoshop*.

15 Open your drawing at 300dpi, and crop it if necessary. Name the opened layer Line Art, and set its blending mode to Multiply. Create a new layer, name it Background, and fill it with an earthy colour. Now select a brighter colour, and fill the layer again at 33% opacity using the Dissolve blending mode. Repeat this process a few times with different colours and opacities.

Tell the story

Nothing gives an illustration more polish then taking time to 'tell the story'. This means doing small things to draw the viewer into your world, such as adding tiny blood spatters and smudges to suggest this map was taken using force, or something more complex such as rendering small tears and allowing a wooden table to show through. These touches will give your work more personality and charm.

16 Now it's time to render. Using a soft brush set to Dissolve mode, and around 50% Opacity, give the mountains and coastlines some volume. When you're happy, use a light colour to trace your roads and cities, to break them out of the background. Finally, use a very dark colour here and there at a low opacity to add depth.

18 Now open paper.psd, and drag it into your document. Set its blending mode to Overlay, and set the Opacity to around 80%. From here, revisit the image to add final touches. Still using a Dissolve brush, add distress marks at low opacities here and there. Feel free to lightly erase the edges of your line art to suggest wear and tear.

17 This step may take a while, but it isn't hard to do. Using the Polygonal Lasso Tool, trace the outline of your land. Once masked, trace the coast with a soft round brush set to Dissolve blending mode, using a red or blue colour. Invert the selection, and fill the 'water' with a darker version of your background colour.

19 Finally, flatten your image and pat yourself on the back, matey! Now, with a better understanding of how *Illustrator* and *Photoshop* can work together, you can start to create more complicated line art with considerably less hassle, giving yourself more time to focus on telling the story!

Illustration: Adi Gilbert at 99SECONDS www.99seconds.com

Distort with style

Distortion doesn't have to mean destruction. The secret of the Distort filters is to use them in ways other than they were intended...

Anyone can apply a filter to an image, but the real skill lies in using them to create effects that are subtle, and almost go unnoticed. Of course, it's not easy to achieve this, especially when you're talking about the Distort filters in *Photoshop*. This set of filters is probably the least used, because their effects tend to be limiting, and often not very desirable. But, with a little experimentation, you may find that even this set of filters can hold the key to a creative solution.

Probably the best filter in this set is the Displace filter, which enables you to use one image as a displacement map to distort the pixels of another image. You can get some very unusual results with this filter, but here we're going to concentrate on blending and gently warping two images to create a carved text effect. Another text effect is created using the Glass filter, which will produce an enlarged halftone dot effect when applied with the right settings.

Subtle distortions can make an image a bit more dynamic; for example you can use the Shear filter to change perspective, or use the Pinch filter to beef up a person's muscle tone, or shrink or enlarge features of the body. We'll also show you how the Wave and Spherize filters can be used to create a quick design idea that would otherwise have taken hours using a more conventional technique.

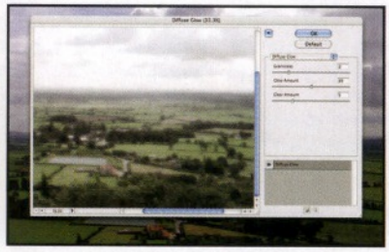
Expertise provided by Frank Bartucca. Frank can be contacted at **frankdesign@btinternet.com**.

All the components needed to complete this tutorial can be found on the cover DVD in the DiscContent\Tutorials\Chapter2\Tutorials\Distort with style folder.

Part 1: Diffuse Glow effect

When used correctly, this filter can improve the quality and colour of an average-looking photo...

1 The Diffuse Glow filter doesn't actually distort pixels, but adds a glowing effect to the highlights of an image using the background colour. Its uses are fairly limited, but one thing it's really good at is creating an atmosphere in photos. Open the Landscape.tif file from the DVD, and duplicate the Background layer.



2 We want to add colour depth to the land, while leaving the sky as it is. Go to Filter > Distort > Diffuse Glow, and set Graininess to 2, Glow Amount to 10 and Clear Amount to 5. As you can see, the whole image is lightened with a glowing effect that softens the edge detail.

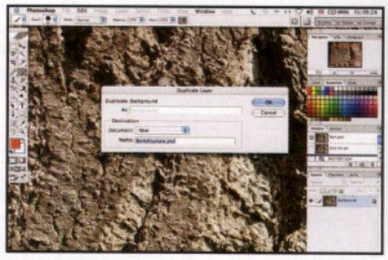
3 Add a layer mask to the duplicate layer, and use the Gradient Tool to draw a black-to-white Linear gradient from the middle of the sky down to the middle of the land. Now you need to set the layer's blending mode to Soft Light to lift the overall colour in the foreground, and add extra depth to the trees in particular.

Part 2: Displacement blending

The Displace filter is used here to gently distort and blend two images...

Displacement maps

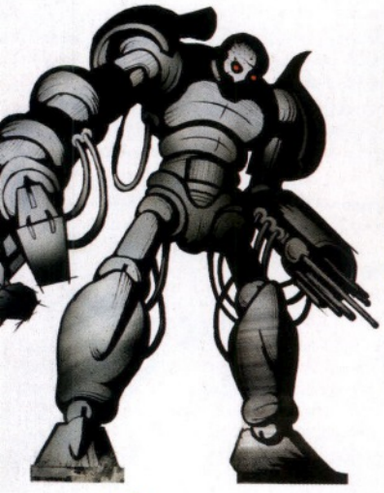
A displacement map is basically any file that has been saved as a flattened *Photoshop* file. It's best to convert the file to greyscale, because you'll get a better idea of how the light and dark areas in the map will distort an image. Dark areas will distort the image downwards, and light areas upwards. The values you choose for the Horizontal and Vertical Scale options dictate the amount and direction of the distortion; negative values will distort the image in the opposite direction. The other options handle how the effect will be fitted to the image if the displacement map is a different size to the image.

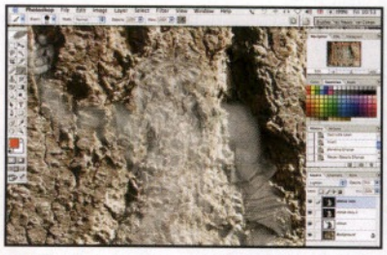


1 Open the Bark.psd file from the DVD. To make a displacement map from this image, Right-click (Control+click on a Mac) next to the layer thumbnail, and choose Duplicate Layer from the pop-up menu. In the Duplicate Layer dialog box, choose New for destination, and name it Barkdisplace.psd. The duplicate image will now open in a new window.

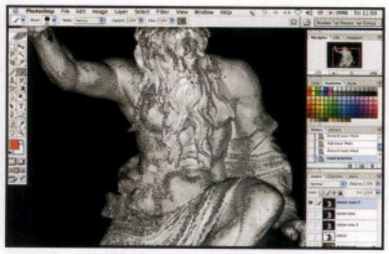
2 Convert the new file to greyscale, and apply a 4-pixel Gaussian Blur to soften the image and reduce the edge detail. Use the Auto Levels command to adjust the contrast slightly, save the file as a .PSD file and close it. Now open the Statue.psd file from the DVD. Re-apply the Gaussian Blur filter and Auto Levels command, save the file as Statuedisplace.psd and close it.

3 Now that we have our two displacement maps we're ready to apply the first to the Bark.psd file. Go to Filter > Distort > Displace, and enter 10 in the Horizontal and Vertical Scale text boxes. Click OK, and locate the Statuedisplace.psd file for a subtle distortion effect. Open the original Statue.psd file, and duplicate the layer into the Bark.psd file.





4 Duplicate the layer and hide it, then invert the Statue layer and run the Displace filter, using the same settings but choosing Barkdisplace.psd as the displacement map. Set the layer to Soft Light, duplicate it, invert it and set the layer to Overlay at 50% opacity. Select the Statue copy layer, and set it to Lighten at 70% opacity.



5 Duplicate this layer, and make it the active layer, then turn off all the other layers. Set the layer to Normal at 100% opacity. Click on the Channels tab, and make a selection from the RGB composite channel. In the Layers palette, click the Add layer mask button, then invert the layer so that the mask hides all the lighter areas of the statue.

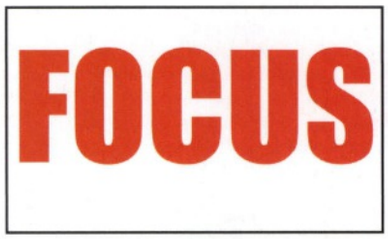
6 For a more natural-looking effect, set this layer to Color, at 50% opacity, to blend the areas of bark that overlap the statue. Click on the Add a layer style button and choose Drop Shadow. Set the Opacity to 100%, Distance to 40 and Size to 10, and leave all the other settings at their defaults. This final adjustment helps to add a bit more depth to the statue.

Part 3: Glass text effects

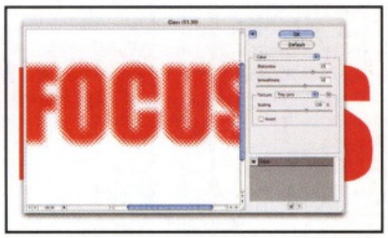
The Glass filter can create some surprising results when applied to text...

Wide angle pinch

One of the most subtle distortions you can perform on an image is to pinch it slightly, to simulate the effect of a wide-angle lens. Open your image, and go to Filter > Distort > Pinch. In the dialog box, set the Amount to 28% to draw the image in towards its centre. Use the Crop Tool to delete the top and bottom of the image, to form a letterbox shape. Try this technique on the Landscape image on the DVD.



1 The Glass filter can be used to add an edge effect to text. Here the word FOCUS is written in the Impact font, then merged with an underlying layer filled with white – if you don't do this the effect will be confined to the interior of the text, and will not be extended beyond the edges.

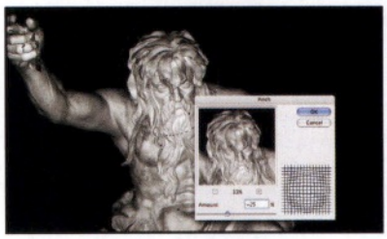


2 In the Glass filter dialog box, the Distortion option is set to 15 and the Smoothness to 10. The Tiny Lens texture is chosen, because it produces a kind of halftone print effect, and Scaling is set to 150% (the Blocks texture also gives an interesting result when the Scaling is set to 50%).

3 An image of a blurred lampshade is brought in under the text layer, and the text layer is set to Lighten to complete the effect. The bottom text effect shown here is achieved by offsetting the filtered text layer with the original text layer, again setting it to the Lighten blending mode.

Part 4: Subtle exaggeration

The Pinch filter is used here to manipulate selected areas of the image...



1 Open the Statue.psd file from the DVD. Select the Elliptical Marquee Tool, and make a selection around the statue's head. Feather the selection by 10 pixels, and go to Filter > Distort > Pinch. Set Amount to -25% to make the head appear a little bigger than it really is.

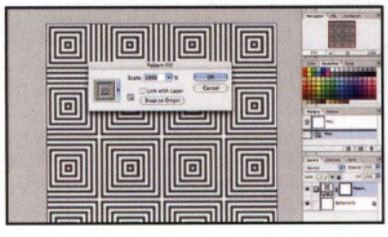
2 Draw an ellipse over the biceps of the right arm, and feather the selection by 10 pixels. In the Pinch dialog, set Amount to -35% to increase the size of the muscle. Go to Select > Transform Selection, and move the selection to the forearm, then rotate and adjust it to fit over the forearm area.

3 Apply the Pinch filter again with the same settings (the shortcut is Ctrl/Command+F). Then move the selection over to the hand, and use the Transform Selection command to adjust the shape until it fits neatly. Then apply the Pinch filter with Amount set to 15%, to shrink the hand.

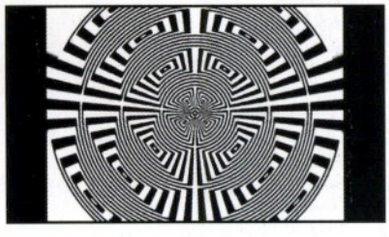
Part 5: Geometric patterns

Apply the Polar Coordinates filter to a pattern to warp it into a circular grid...

1 Create a new document, 200x200mm at 300dpi. Create a new fill layer, and select Pattern. In the Pattern Fill dialog box, click the arrow next to the pattern preview to open the Pattern picker, then click the arrow at the top-right of the picker and select Load Patterns from the menu.

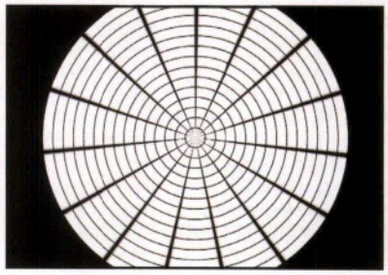


2 You should be taken to the Photoshop > Presets > Patterns folder. Select all the patterns to load them into the Pattern picker. Choose the Optical Squares pattern, and set the Scale to 1000%. Deselect the 'Link with Layer' option, drag on the canvas area to centre the pattern, and click OK.

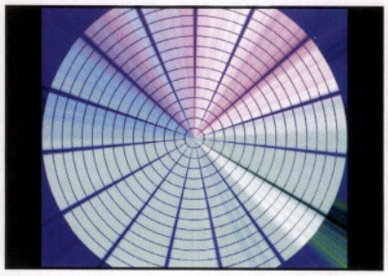


3 Right/Ctrl-click next to the layer thumbnail, and choose Rasterize Layer. Go to Filter > Distort > Polar Coordinates, and choose the Rectangular to Polar option. Duplicate the layer, set it to Hard Light, then add a Brightness/Contrast adjustment layer, and set the Brightness to -80 and Contrast to +80.

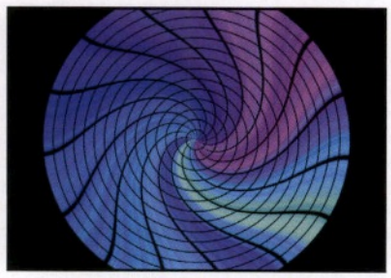
Geometric patterns, continued...



4 To create this pattern effect, choose the Tiles Smooth pattern from the Pattern picker, and set the scale to 492% to fit it snugly on to the canvas. Again, rasterise the layer and apply the Rectangular to Polar option from the Polar Coordinates dialog box. Duplicate the layer, and set it to Color Burn to bump up the contrast.



5 Select the Gradient Tool, click the Linear Gradient button and choose 'Blues' from the Gradient picker. On a layer beneath the two pattern layers, draw a linear gradient across the canvas. In the Polar Coordinates dialog, apply the Rectangular to Polar option over the gradient, and set the pattern layer above to Overlay to blend in the three layers.



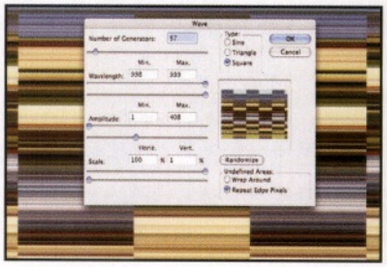
6 Now to put a slight spin on the effect. Link the two pattern layers, and merge them into a single layer. Apply the Twirl filter, with the Angle option set to about 130%, to both the pattern and gradient layers. Set the pattern layer to Multiply, this time to keep the pattern effect black.

Part 6: Wave designs

Get stuck into some serious design work using two simple effects and the Wave filter...

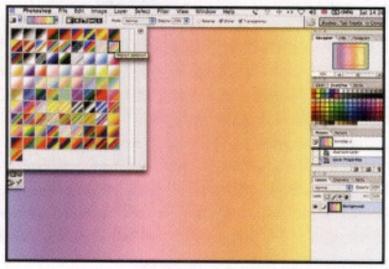
Designing with filters

The Wave and Spherize filters aren't effects that a designer would normally consider when trying to produce a piece of creative artwork. But, as you'll see in this tutorial, they can produce striking results if the right combinations of settings are used. It would take ages to create these kinds of effects using a conventional method, such as building up gradient layers with layer masks. Using the Wave filter to break up the text also makes sure that the pieces are placed to correspond with the pattern.

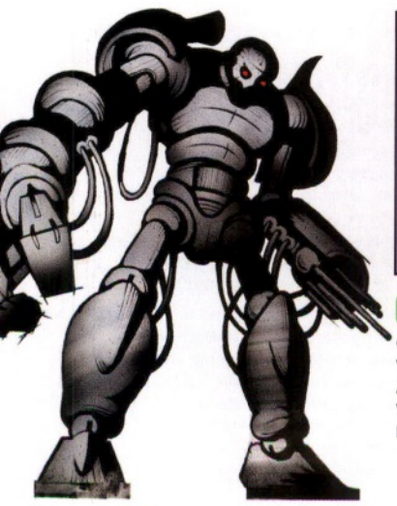


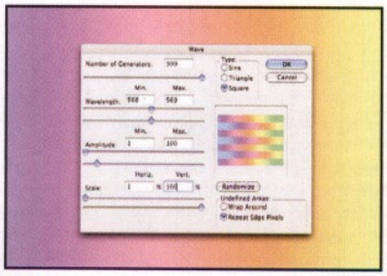
1 Open the Rocks and sea.tif file from the DVD, and go to Filter > Distort > Wave. To create the above pattern, set the Number of Generators to 57, Wavelength Min. to 998, Wavelength Max. to 999, Amplitude Min. to 1, Amplitude Max. to 408, Scale Horiz. to 100%, Scale Vert. to 1%, select Square and choose Repeat Edge Pixels.

2 To create an effect that breaks up an image into rectangles, and rearranges the pieces in a random order, set the Number of Generators to 200, Wavelength Min. to 998, Wavelength Max. to 999, Amplitude Min. to 1, Amplitude Max. to 500, Scale Horiz. to 1%, Scale Vert. to 100%, select Square and choose Wrap Around.

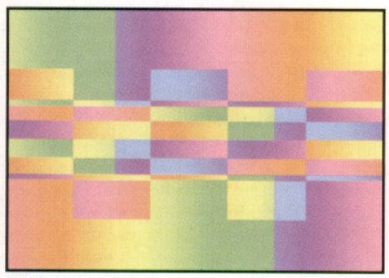


3 Now we'll use the Wave filter as part of a creative process to produce a colourful typographic design. Create a new document, 210x160mm at 300dpi. Select the Gradient Tool, click the Linear Gradient button and choose the Medium Spectrum gradient from the Gradient picker. Draw a horizontal gradient across the canvas.

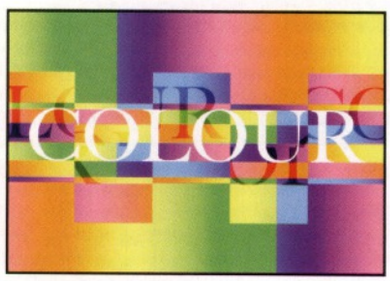




4 To break up the gradient into a pattern, go to Filter > Distort > Wave. Set the Number of Generators to 999, Wavelength Min. to 568, Wavelength Max. to 569, Amplitude Min. to 1, Amplitude Max. to 100, Scale Horiz. to 1%, Scale Vert. to 100%, select Square and choose Repeat Edge Pixels.



5 To distort the gradient in the other direction set the Wavelength Min. to 998, Wavelength Max. to 999, Amplitude Max. to 40, Scale Horiz. to 100%, Scale Vert. to 1%, and select Wrap Around. To squeeze the pattern into more of a horizontal line, apply the Spherize filter with Amount set to -100 and Mode set to Vertical Only.

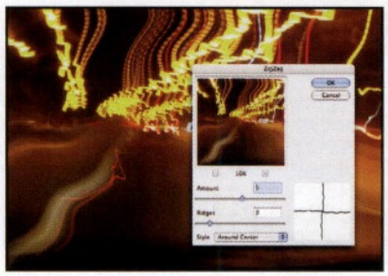


6 Apply the filter again to intensify the effect. Add a text layer, and type the word COLOUR in Big Caslon at 230pt. Duplicate the text layer, rasterise it, then reapply the Wave filter. Set this layer to Overlay, then invert the text layer. Duplicate the gradient pattern layer and set it to Color Burn, to intensify the colours throughout the design.

Part 7: Mild distortions

The Shear and ZigZag filters put a different slant and a subtle spin on these images...

1 Open Skateboarder.tif from the DVD. To give more of a dynamic feel to the image you can apply a subtle shear effect. Go to Filter > Distort > Shear, and pull the top anchor point over a little to the right of the centre, then pull the bottom anchor point a bit to the left. The image will need cropping to remove the overlapped areas on each side.



2 The trails of light in this shot are first given a slightly more wavy distortion using the ZigZag filter. This filter usually creates spinning or rippling effects, but when it's used on very low settings the effect is quite subtle. Here, Amount is set to 5, Ridges to 3 and Style to Around Centre.

3 To create a stronger distortion around the edges of the image, the ZigZag filter was applied again on a feathered selection, leaving the centre untouched on a duplicate layer. The layer is then blended into the background layer using Lighten mode, to add the extra streaks of light to the image without affecting the colour.

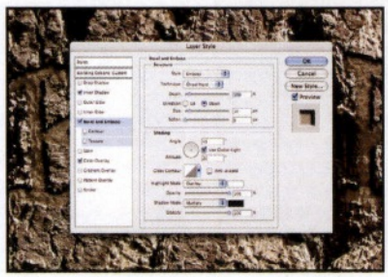
Part 8: Carved text effects

Use the Displace filter and layer styles to create this carved effect...

Getting it right

You may have to do some fiddling in the Layer Styles dialog box to get the effect shown here looking just right. One of the most important things is to match the lighting in the effect with the lighting in the image. The depth of the shadows also needs to match those in the image, and, of course, the blending of the effect needs to be right. These three steps will give you a basic understanding of the process, and leave you with an image with which you can experiment.

1 Open the Bark.psd file from the DVD. Add a text layer, and type the word BARK in the Tremor font at 500pt. Rasterise the text layer, then go to Filter > Distort > Displace, and enter 10 for the Horizontal and Vertical Scale options. Use the Barkdisplace.psd file we created earlier as the displacement map for the text.



2 For the carved effect, add a Bevel and Emboss layer style. Use these settings – Style: Emboss, Technique: Chisel Hard, Depth: 100, Direction: Down, Size: 10, Soften: 0, Angle: 45 degrees, Altitude: 20, Gloss Contour: Linear, Highlight Mode: Overlay, Opacity: 100, Shadow Mode: Multiply, Opacity: 100.

3 Select Inner Shadow, and enter Blend Mode: Multiply, Opacity: 100. Tick Use Global Light and enter Distance: 10, Choke: 20, Size: 25. Tick Color Overlay and set the colour to C: 48, M: 62, Y: 68, K: 15. Under Blending Options tick 'Blend Interior Effects as Group'. Set the layer to Soft Light.

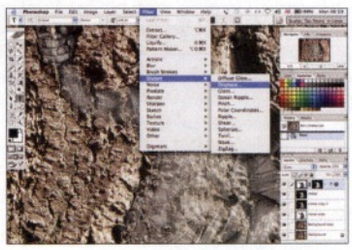
Explore and experiment

Discover the creative power that lies beneath even the most simple-looking filters...

We hope this tutorial has inspired you to experiment more with this set of filters. The Distort submenu is one of the least impressive *Photoshop* has to offer, but if you only have access to *Photoshop's* built-in filters, it's up to you to discover what you can achieve with them. The Displace filter, in particular, can produce some truly unique text effects when used with a photo that you've taken yourself as the displacement map.

Don't believe the designers and illustrators who tell you to keep away from filters, because they're there to be explored.

As you've seen in this tutorial, when used with a specific effect in mind, and blended and used with other techniques, you can produce some excellent results. And, once you do start to experiment with *Photoshop's* filters, you'll realise that although they seem limiting to begin with, the effects you can produce are only limited only by your imagination. We have missed out a couple of filters from the Distort submenu, but that's because there isn't much you can do with them other than use them for their intended effect. ■



The Distort filters aren't the best in *Photoshop*, but they can still produce some amazing effects.

Decay effects

Photoshop is, of course, great for touching up photos, and for creating new and vibrant images – but it's just as effective at taking your imagery the other way...

Dirty, decaying, diseased, distressed: not the most common terms that come to mind when you think of design and illustration. And yet that's where we're going with this tutorial. It should give you lots of ideas for how to age your images, make them look more worn-out using painted textures, and how to generally make things look a lot less... well, new.

We'll also touch on a lot of familiar aspects of *Photoshop*, including layers, marquees, masks, levels adjustments, and the Filter menu. We didn't want the finished piece to be that linear, so we've tried to go into increased detail when creating textures, so that you can get an idea of what source material to photograph and manipulate.

We've tried to be as accurate as possible when referring to where the various tools can be found, but when you're distressing photographs with textures remember that it's not an exact science. You could follow this tutorial to the letter, or you could just as easily use different values for each layer and still create an effective piece.

Expertise provided by Tim Seelig. Tim is a freelance illustrator and designer, and has worked on design concepts for Miramax Films. He can be contacted through **www.debutart.com**.

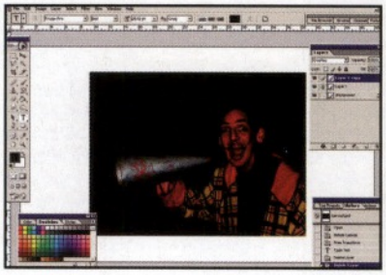
All the components needed to complete this tutorial can be found in the DiscContent\Tutorials\Chapter2\Tutorials\Decay Effects folder

Part 1: Setting the scene

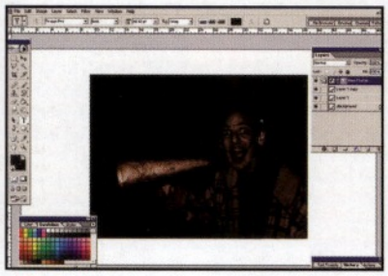
Choose some initial values to create the basis of your piece...

Keep your pictures

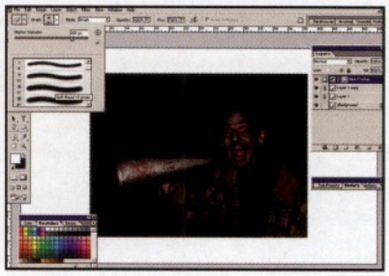
Even if photos don't come out as expected, you should keep them for possible use in future projects. This is easier with digital technology, but it's worth keeping printed photos too, so every so often you can go through them when you need a new texture. You'll soon become adept at spotting these.



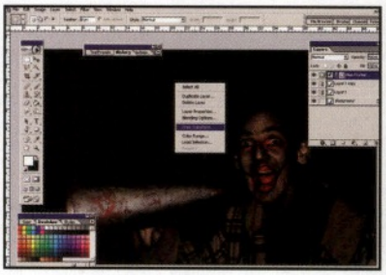
1 Download the source files from DiscContent\Tutorials\Chapter2\Tutorials\Decay Effects. Then open layer1.jpg. Create a copy by dragging the thumbnail in the Layers palette on to the 'Create a new layer' button, and set the blending mode to Overlay.



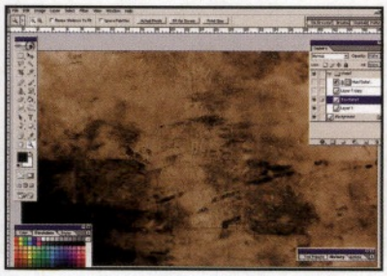
2 Create a new adjustment layer using the button at the foot of the Layers palette, and select Hue/Saturation. Check the Colorize box, set Hue to 23 and Saturation to 20, and leave Lightness at 0.



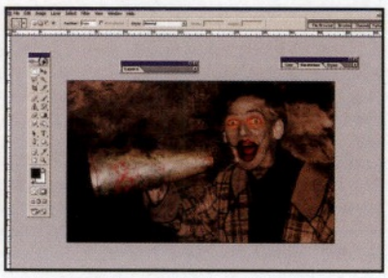
3 Select the Eraser Tool, and choose a soft, round brush. Erase from the area over the megaphone on the Hue/Saturation layer. Use a smaller brush, with Opacity set at 50%, around the man's eyes and mouth. You'll have to repeat this process during the tutorial so the mouth and eyes remain consistent.



4 Link the top three layers, and Free Transform the image to the edges of the canvas (when working in a large image, click the 'Maintain aspect ratio' icon before resizing). Move the layers to the top-left of the canvas, then drag the bottom-right transform handle to the bottom-right corner.



5 Paste 'texture1' in between 'layer1' and 'layer1 copy'. At this stage, this is the main canvas, so group all these layers using the 'Create a new set' button at the foot of the Layers palette.



6 If you want to create a texture like this, there are literally hundreds of ways in which you can do it. Most of these processes involve a digital camera or a scanner, and having some gouache and/or acrylics helps as well.

Mixing up materials

Let your imagination take over when mixing painted and photographic materials...

Brush thick gouache or acrylics on to paper so that you get some well-defined brush strokes. Also photograph rust marks, or stone, or anything that looks weathered or rough. Pull the image into *Photoshop*, and play around with the Hue/Saturation and Levels settings to adjust how much the light/dark parts of the textures stand out. Then play around some more by taking one texture, duplicating the layer, rotating it 180 degrees and combining the layers using various combinations of blending modes and opacity settings. Alternatively, before combining the two layers, apply the Gaussian Blur filter.

The process is all about letting your curiosity get the better of you. Here, we've used a painted wall with bits of moss on it, combined with the bottom corner of a painting and scanned at 300dpi. We applied the Gaussian Blur filter, then used the Hue/Saturation dialog's Colorize option to give the whole image a sepia tone.

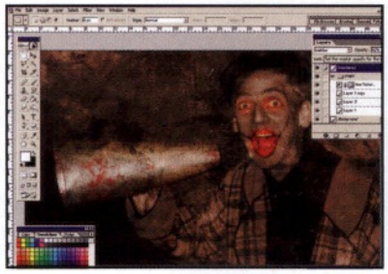
Paint your own textures, or use photographs of natural materials, to create decaying effects.

Part 2: Combining textures

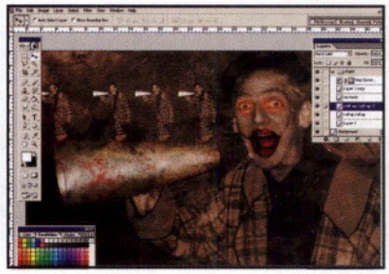
Create a pattern that will make your composition look even freakier...

Making patterns

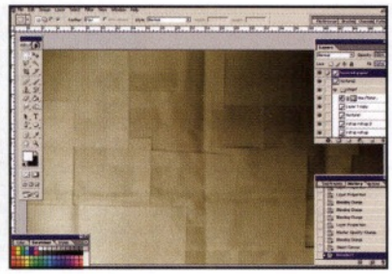
You can create a pattern from a texture by flattening it and copying it, and selecting Pattern Maker from the filter menu. Within the Pattern Maker dialog, tick the 'Use clipboard as sample' option, and generate a pattern. If you don't like the result, you can change the settings and try again. Then take this new pattern, and overlay it on to your blended photograph layer.



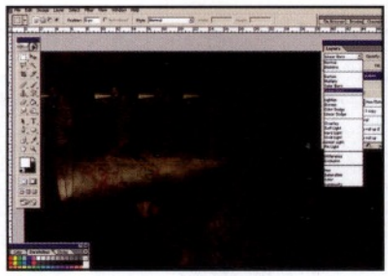
1 Turn on the other layers, and make sure that texture1 is selected. Change the blending mode to Screen. Add texture2 as the top layer, change the blending mode to Lighten, and reduce the Opacity of the layer to 40%.



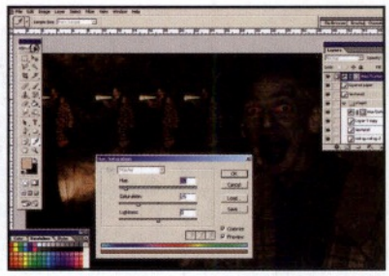
2 Take the image of the four clowns, and place them on top of the megaphone. Make sure they follow the line of the megaphone by selecting the Rectangular Marquee Tool, followed by Free Transform. Now adjust the layer's blending mode to Hard Light, and duplicate the layer.



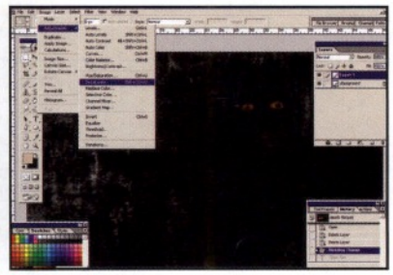
3 The next layer to drop into the image is layered paper.jpg. Going back to creating textures, this is another good background to practise with. Just take a load of sheets of blank paper, and overlap them to make a background of rectangles and squares.



4 Make sure the 'layered paper' image is at the top of the Layers palette and adjust the blending mode to Linear Burn, at which point you'll lose most of the right side. Now reduce the Opacity of the layer to around 53%.



5 Create a new adjustment layer and select Hue/Saturation. Make the Hue 32 and Saturation 25. As before, select the Eraser Tool, and, using the soft brush, go over the mouth and the eyes with the brush Opacity set to 50%. Also go over the smaller figures, and give them some variety by adjusting the opacity of the brush.

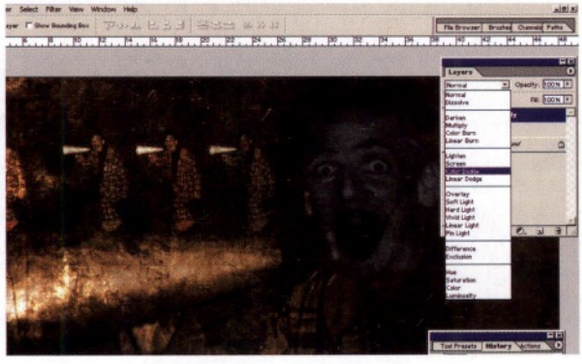


6 Everything up until now has been flattened (using the Flatten Image option from the Layers palette menu) to prevent slow-down – at this point, the image was already taking up 300MB at 300dpi. Now add the layer named texture3.jpg.

Adding depth to your textures

Take your textures to a deeper level using Quick Mask mode...

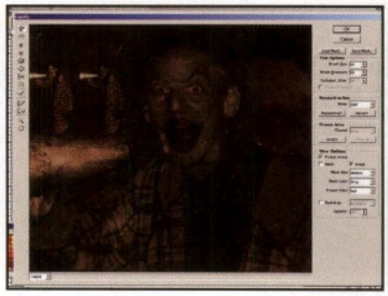
Take your newly created texture, change the blending mode to Color Dodge, and then erase over the mouth and eyes of the main figure. Go to the original photograph of the clown (layer1.jpg), and copy and paste his head into the main image. Resize using Free Transform if necessary, and adjust the opacity to see if you're lined up. If you want to be more accurate, switch to Quick Mask mode and select the head, making sure black is the foreground colour. Select a suitable brush, and paint over the head in the main image with a soft brush. Switch back to Standard editing mode, and make sure the head is selected (you may need to invert the selection, by going to Select > Inverse). With the selection in the main image active, go to Edit > Paste Into – now you've got the image masked so you won't go all over the place. Also make sure that this latest layer is desaturated, and set the blending mode to Color Dodge. If you feel the ear is a tad bright, select the Eraser Tool and a large-ish soft brush, and gently erase from the current layer.



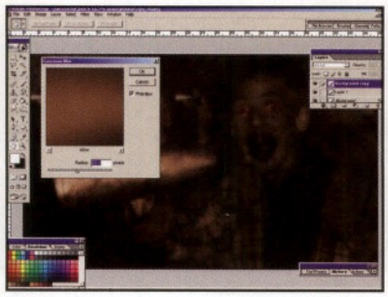
Use Quick Mask mode to isolate parts of the image for specific adjustments.

Part 3: Little things

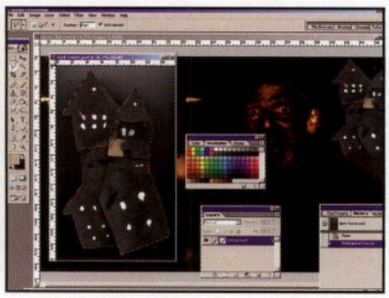
Take care of the small details to refine your illustration...



1 The spiky teeth are created by going to the flattened main layer, and using either the Smudge Tool or the Liquify Filter. In the Liquify interface, select the Warp Tool, and use a small brush to adjust the teeth, and a larger one to adjust the facial expression.

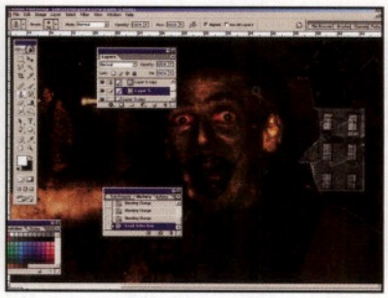


2 Now to give the image a slightly more 'moist' look. Select the background layer, and duplicate it. Now go to Filter > Blur > Gaussian Blur. Adjust the Radius setting, and reduce the Opacity of the layer to 80%. Change the blending mode of the layer to Overlay.

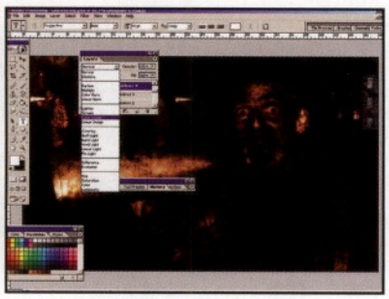


3 Now add to the background. Open the darktower.jpg, and use the Polygonal Lasso Tool to surround the cardboard tower. Copy and paste into the main image. Select a soft brush, and paint around the bottom of the image, filling the space between it and the shoulder of the clown.

4 Select the Clone Stamp Tool. Choose a soft brush, sample an area of the tower layer without white spots and paint over the white spots. When you've finished, set the layer's blending mode to Overlay, and duplicate the layer.



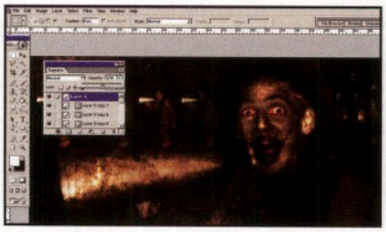
5 Open the windows.psd from the cover DVD, and copy and paste into the layer transparency of the higher tower layer by going to the Options menu for that layer and selecting Layer Transparency. Now go to Edit > Paste Into. Then manoeuvre the layer to fill the bottom-left part of the tower.



6 Set the layer to Soft Light, duplicate it, and set the duplicate to Color Dodge. Repeat these duplicate layer steps for the top left-hand side. Set the first to Hard Light, and the second to Color Dodge. For the top-right side set both layers to Color Dodge. In the bottom-right, set the first layer to Color Dodge and the second to Overlay.

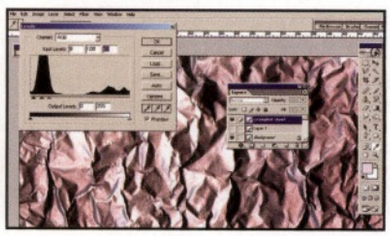
Part 4: (Dis)stressed out

Add some crumpled metal effects to the background of your composition...



1 The next adjustment is to bring out the area around the eyes and the right cheek. Copy the face, then use the Eraser Tool around the face, and adjust the Opacity to around 50%. Set the blending mode to Lighten.

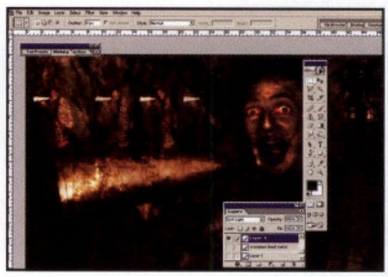
2 Open the crumpled metal sheet.psd file. This stuff is great – it's like negative tin foil. It needs some editing for use in our image, because it isn't showing up particularly well – adjust the levels to make it brighter. If you ever come back to this tutorial, scan in a new piece of screwed-up tin foil – you'll see why in the next step.



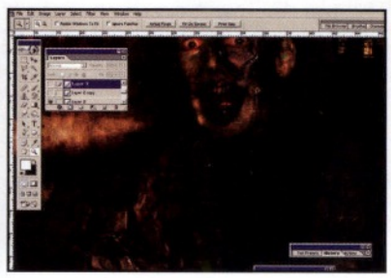
3 Go to Image > Adjustments > Levels, and Experiment with the values. Here, we used the levels 8, 1.00, 49. OK this, and switch to Quick Mask mode. Select the brush, set the foreground colour to black, and reduce the Opacity of the layer to 0%.

(Dis)stressed out, continued...

4 We're now going to separate the layer into two distinct areas. Paint over the main figure, including the megaphone, and then go back into Standard editing mode.



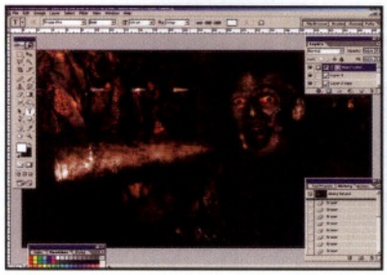
5 With the area now selected, select the Marquee Tool. Right-click (Ctrl+click) on the canvas, and choose Layer via Cut from the pop-up menu. In the image pictured here the crumpled sheet layer over the figure is switched off. The other sheet layer has been blended using Soft Light.



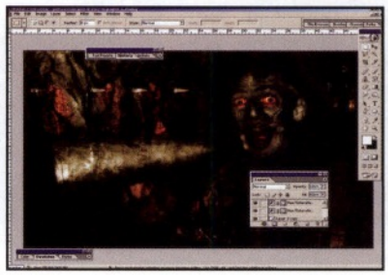
6 Here, we erase a lot of the far right-hand side (over the house and right side of the jacket). We've also cleared the left side of face, leaving the crumpled effect over the right side only. Experiment, because you might want to give the guy completely different crumpled areas to this.

Part 5: Finishing off

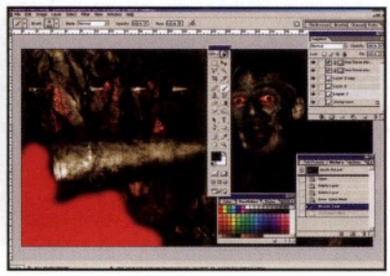
Here are some options to think about when completing your project...



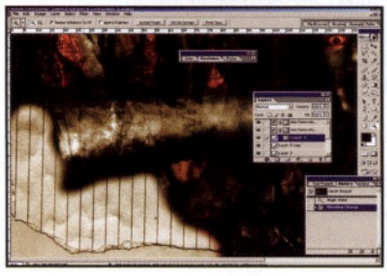
1 As well as erasing the areas you want, try playing around with the opacity of the Eraser brush – this makes some areas stick out more than others – or simply play around with the opacity of the layers. Now apply a colour adjustment layer – experiment with Solid Color, Selective Color and Color Balance to acheive the desired effect.



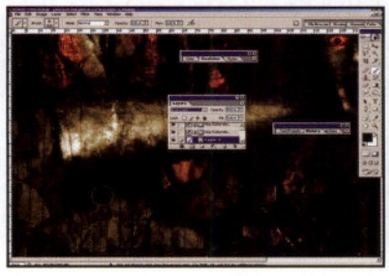
2 Erase the areas of the eyes and mouth as usual, as well as other areas such as the house and the small figures on the megaphone. You could also flatten the whole thing again, copy the entire image, blur it to a degree and then overlay it.



3 You could make some of the darker features stand out using any number of ways we've explored earlier. Here, we selected the layer containing the metal sheet, and used the Quick Mask tool to paint over the area we want to select.



4 Go back to Standard Edit mode, invert the selection, and create a Levels adjustment layer. Set the levels to 0, 1.18, 145, then bring in the torn paper layer and paste it into the selection created in the previous step. Use the Magic Wand Tool to select the area outside the paper, and delete it (set the tolerance to around 20).



5 Delete the selected area. Now adjust the blending mode of the torn paper layer to Soft Light, then select a large, soft brush, and paint around the lower area of the megaphone to create the effect of a shadow.

6 You could also flatten the whole image again, make a duplicate layer of the entire image, blur it a little and then overlay it. This will add a little 'moisture' to the image. Or, if you use Lighten mode instead, it makes the image almost glisten. The possibilities from here could go on forever; the trick is knowing when to stop... ■

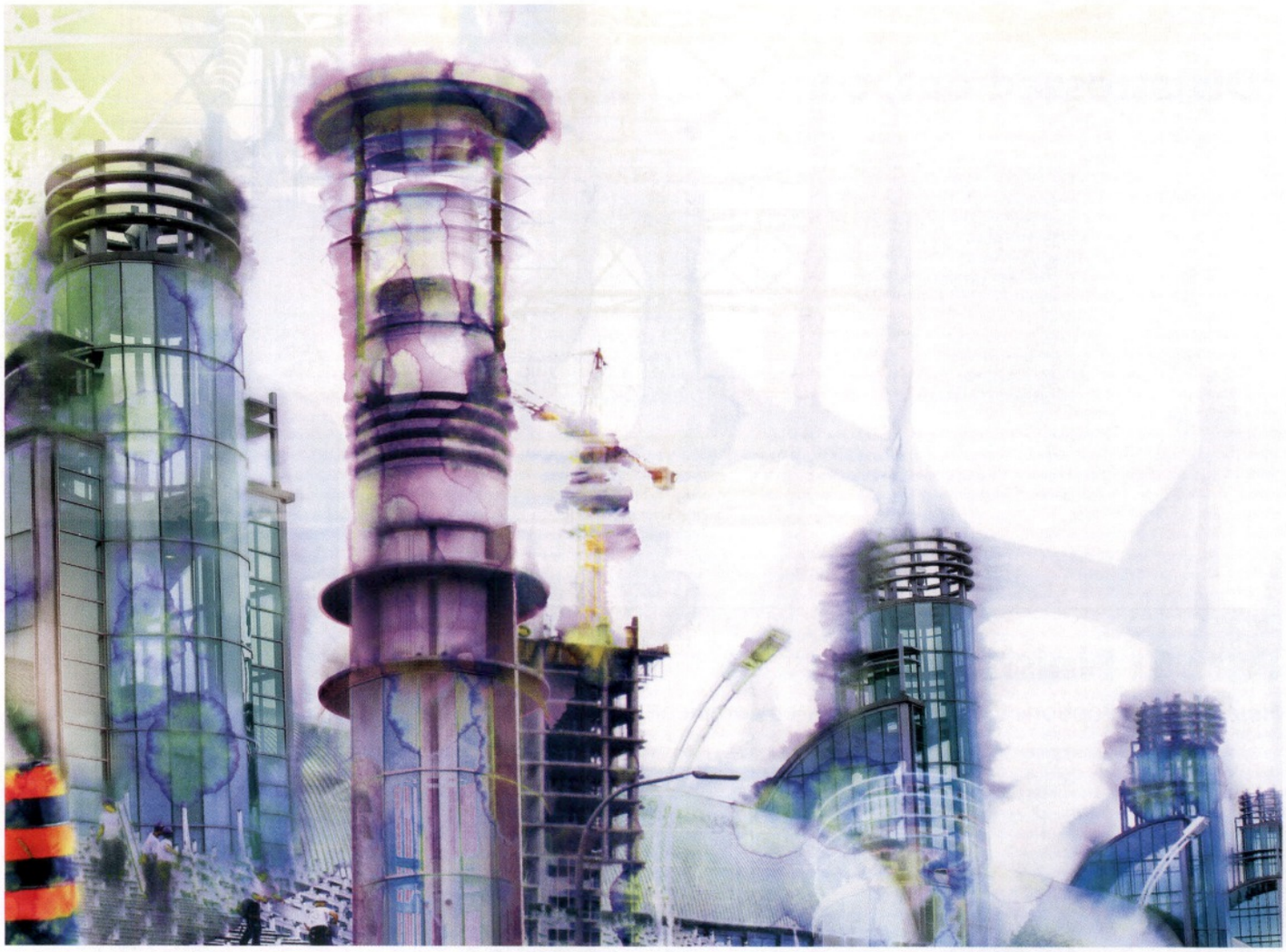


Illustration by Derek Lea www.dereklea.com

Water effects

All the resources to complete this tutorial can be found on the cover disc in the DiscContent\Tutorials\Chapter2\Tutorials\Water folder

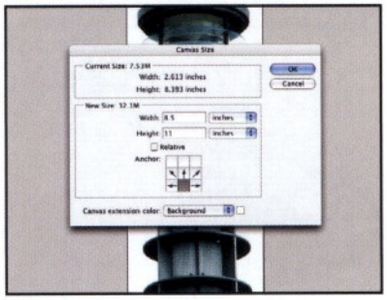
Get back to good old-fashioned techniques with the aid of an inkjet printer and desktop scanner. You'll also need some water, and be happy to make a bit of mess! **Derek Lea** shows you how...

One of the great advantages of creating digital art is that it's an extremely clean process: you don't need to make a mess with paints, or get your hands dirty with chemicals in the darkroom. However this unnatural cleanliness can come at a price, as you become more and more removed from traditional artistic techniques. This tutorial is designed to remind you that there are still many real-world creative techniques that can be incorporated into your *Photoshop* art, to give it a unique look that couldn't be achieved by either digital or traditional means alone.

This tutorial involves taking ready-made digital images, manipulating them, and then putting them back into *Photoshop*. First, you'll print out your images using an inkjet printer (we used an Epson Stylus Photo R300), and use water to manipulate the ink. It's important to use regular uncoated paper for your prints: we tried Epson glossy photo paper, and high-quality inkjet paper, but as a result of excellent engineering, they're useless for this process!

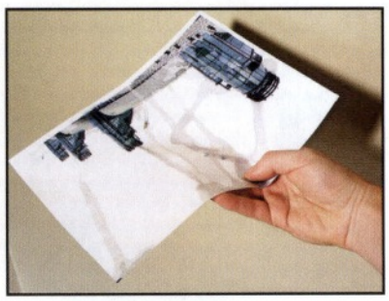
After having water applied, the prints are left to dry, and then scanned. We used an Epson Perfection 3200 Photo scanner, and scanned the manipulated printouts at a high resolution. Once all of the images have been scanned, each element is introduced to the main image file. Some elements contain many layers, and some are simply raw materials for your alpha channels. But, regardless of how specific elements are incorporated, the process, and advantages, of blending manipulated printouts with your digital files will quickly become clear.

Manipulating images with water...



1 Open all of the image files from the cover DVD. When you print them you'll need to position them on your pages so that there's room for the ink to run on the page. Choose Image > Canvas Size from the Menu, and increase the canvas area accordingly.

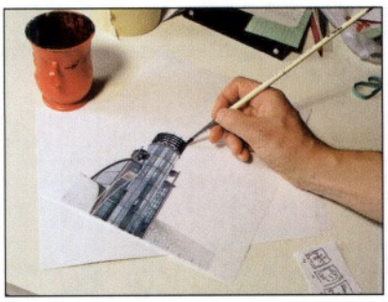
2 Print out one file on an inkjet printer. It's important to work while the ink is still wet to get the best results, so once the page is printed, immediately hold it upright or tape it to a wall, and spray water on to parts of it to make the ink run.



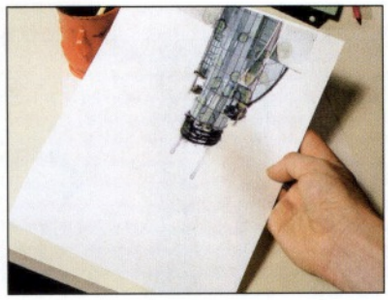
3 The ink will start to run straight away, and as the water separates the ink components some areas of colour change hue, revealing new colours. Rotate or tilt the page to control the dripping water, or blow on it to alter the direction.

That old look

Water can do very interesting things to your inkjet printouts. The colour separates, and areas of black or neutral will often bleed off in bluish hues. However, if you think beyond clear water, you can achieve some very interesting effects using tinted liquids. For instance, try using coffee or tea on a printout that contains warm tones or sepias: in addition to bleeding the ink, the liquid also stains the paper, and the result is a nice antique effect.

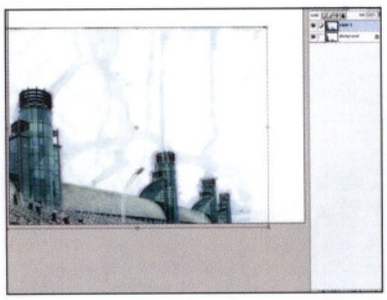


4 Apply this sprayed water effect to your printouts of the glass building, the light post, and the curved building section. Once you've finished, print them out again. While your first printout is still wet, use a brush to add water in a more controlled manner.

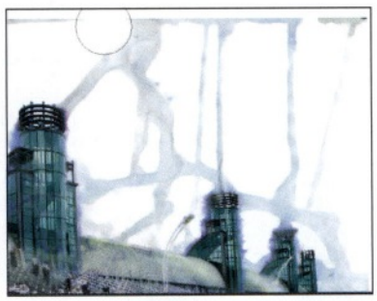


5 When the water starts to pool, use the brush to move it around on the page. Introduce further wet areas that are smaller, or flick the brush so that water spatters across the image, causing it to bleed. Move and rotate the image to control any dripping.

6 Print out the remaining DVD files. Put the water spray aside, and use the paintbrush and water technique on the remaining printouts for a less drastic water effect. Lay out all of your prints to dry on a surface that won't be ruined by the wet ink.



7 Scan two of your printouts of a single image, and open the original file, too. Drag one of the scanned images into the original file, and reduce the layer's opacity. Use Edit > Free Transform to adjust and position it.

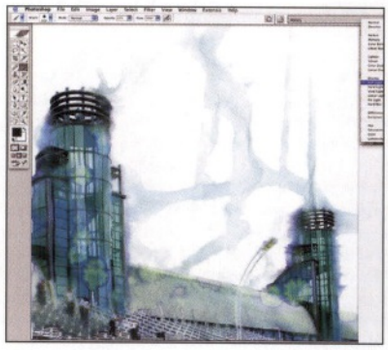


8 Once both images are the same size, return the Opacity to 100 and add a layer mask. Set the foreground colour to black, and use a soft brush to mask out areas of the layer, varying the size and opacity of the brush.

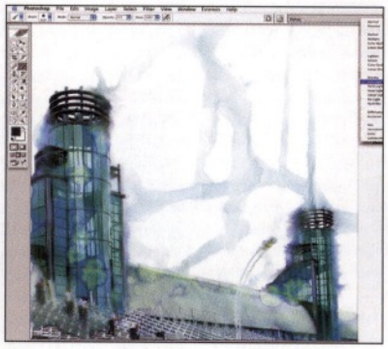
Manipulating images with water, continued...

Flip it over

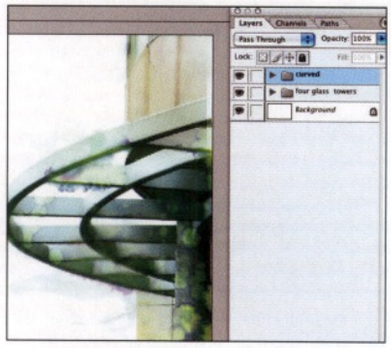
When you apply water to your inkjet printouts you'll notice that in many areas it soaks through the paper completely. Once the paper dries, try flipping the paper over and have a look on the other side: you may be pleasantly surprised to see how some of the image details bleed through in certain areas. Try scanning the reverse side of one of your images – but remember that in order to match it up with other scans on the same image, you'll need to flip it horizontally.



9 Duplicate the layer, change the blending mode to Soft Light and reduce the layer's opacity. Bring in your other scan as a new layer, and use the same method as before to size, position, mask and edit the layer mask. Duplicate this layer, and again change the mode to Soft Light.

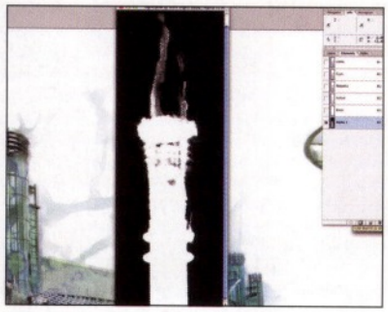


10 Create a layer set, and add all of the layers in the correct order. Use this technique to create a multi-layered set for each image, with the exception of the cranes and electrical wires. You can now perform Levels, Hue/Saturation or Selective Color adjustments to individual layers as required.

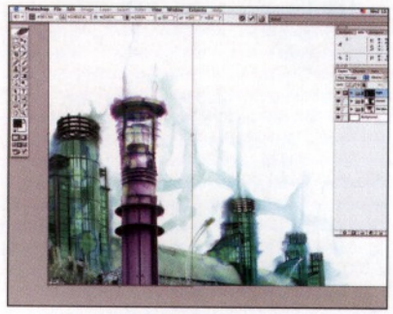


11 Add any desired adjustment layers to your individual sets. Create a new file, and use the Move Tool to drag the main building and the curved building sets into it. Position the main buildings to the right and the curved building to the left, before using Free Transform to make any size adjustments you feel are necessary.

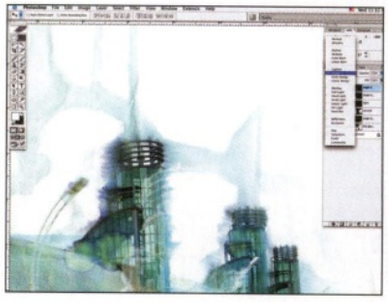
12 Add masks to your sets where needed, and use the Gradient and Brush tools within the masks to edit them. Also feel free to edit individual layer masks within your sets. Open one of your layer set files, duplicate the set and then merge it using the Layers palette menu command.



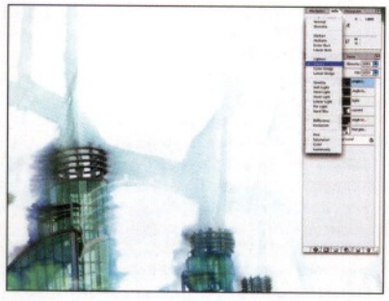
13 Copy the merged layer, and paste it into a new alpha channel. Choose Image > Adjustments > Invert, and then Image > Adjustments > Brightness/Contrast. Perform a drastic adjustment, so that the imagery is mainly represented by white. Generate a selection from the channel in the Channels palette, then return to the Layers palette and discard the merged layer.



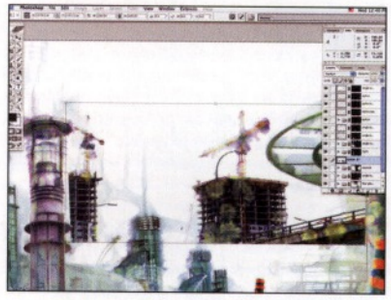
14 With the selection active, select the layer set, and click the Add layer mask button at the foot of the Layers Palette. Use the Move Tool to drag the masked set into your main file. Next, use Free Transform to resize and position the layer set of all the layer set files.



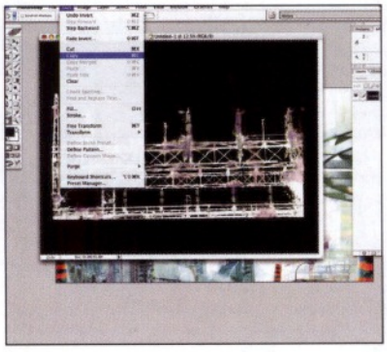
15 Bring each layer set into the working image file. Have some fun with Free Transform, experimenting with the scaling and orientation of elements. Try using more than one instance of the same set, and alter the blending modes of the sets and edit their masks. Feel free to merge sets, and alter the mode of the resulting layer.



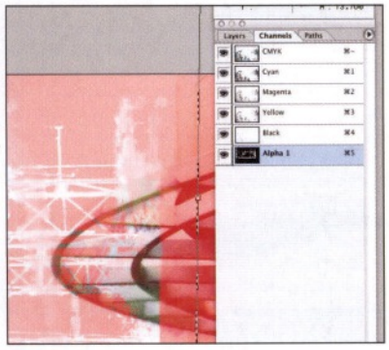
16 Now have some fun editing individual layers within the sets. Change the blending modes and opacities, and edit individual layer masks. Then move sets and individual layers up and down within the stack in the Layers palette. Finally, open up the altered printout scan that contains the two cranes.



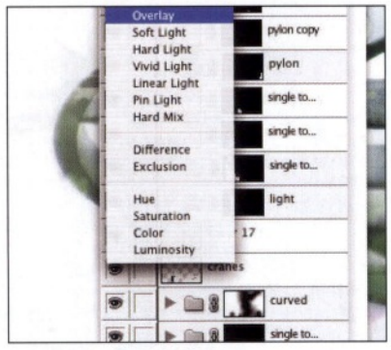
17 You can now copy the contents of the cranes image, and paste it into the working document as a new layer. Change the blending mode to Darken, and move the layer down the stack until it's underneath the light post layer set. Finally, use Free Transform to adjust the size of the cranes.



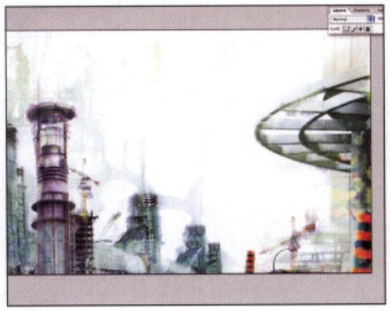
18 Position the layer so that the left-hand side of the left crane tucks under the light post. Select that Rectangular Marquee Tool, and draw a marquee around the right crane, then move it down and to the right. Open the electrical wires scan, invert the image, choose Select All, and hit Copy.



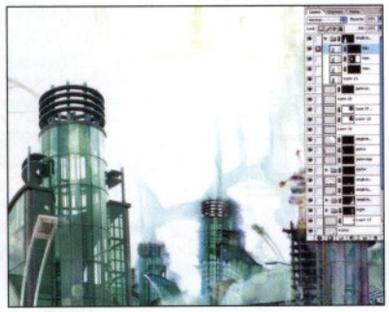
19 Create a new alpha channel in the Channels palette of the working file. Enable the visibility of the CMYK composite channel, but be sure that the alpha channel is selected. Paste the copied image into the alpha channel, and use Free Transform to adjust its size, position and orientation.



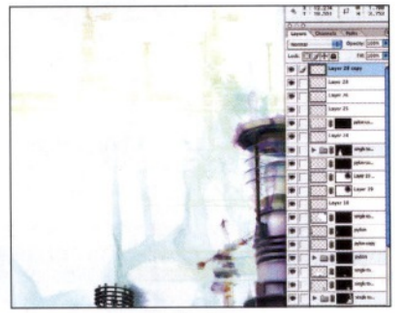
20 Generate a selection from the channel, and create a new layer in the Layers palette. Sample existing colours from the image with the Eyedropper Tool, and add them inside your selection using the Gradient Tool. Feel free to create additional layers with different blending modes, and introduce a range of colours to the image.



21 Try inverting the selection and adding colour with the Gradient Tool. Add masks, and edit your new layer masks inside and outside the current selection. And you don't have to stop here: this file is built in a way that lets you edit individual layers, sets, and masks as much as you like.

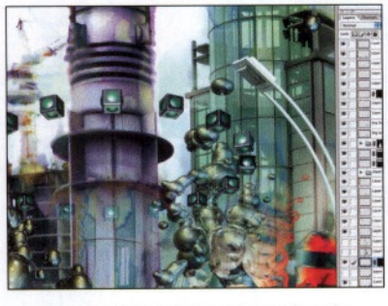


22 Select Image > Rotate Canvas > Flip Canvas Horizontal. Next, add another layer set to the left side of the image, and use Free Transform to size and position it. Edit the layer masks of the scanned printout layers within the set to restore some sharpness to the building, and remove most of the water effects.



23 Start editing layer masks throughout the image, masking some of the wet effects to restore areas of clarity and sharpness to the buildings and other elements. Select the Pen Tool, and trace elements to create sharp selection borders to mask within, and copy and paste selected areas, such as the small lights, as new layers.

24 Open the five finished 3D renderings from the DVD, and bring them into the image as separate layers. Use Free Transform to resize and position the 3D-rendering layers within the file. Use layer masks and various blending modes to add them to the composition, and then adjust their colour and tone.



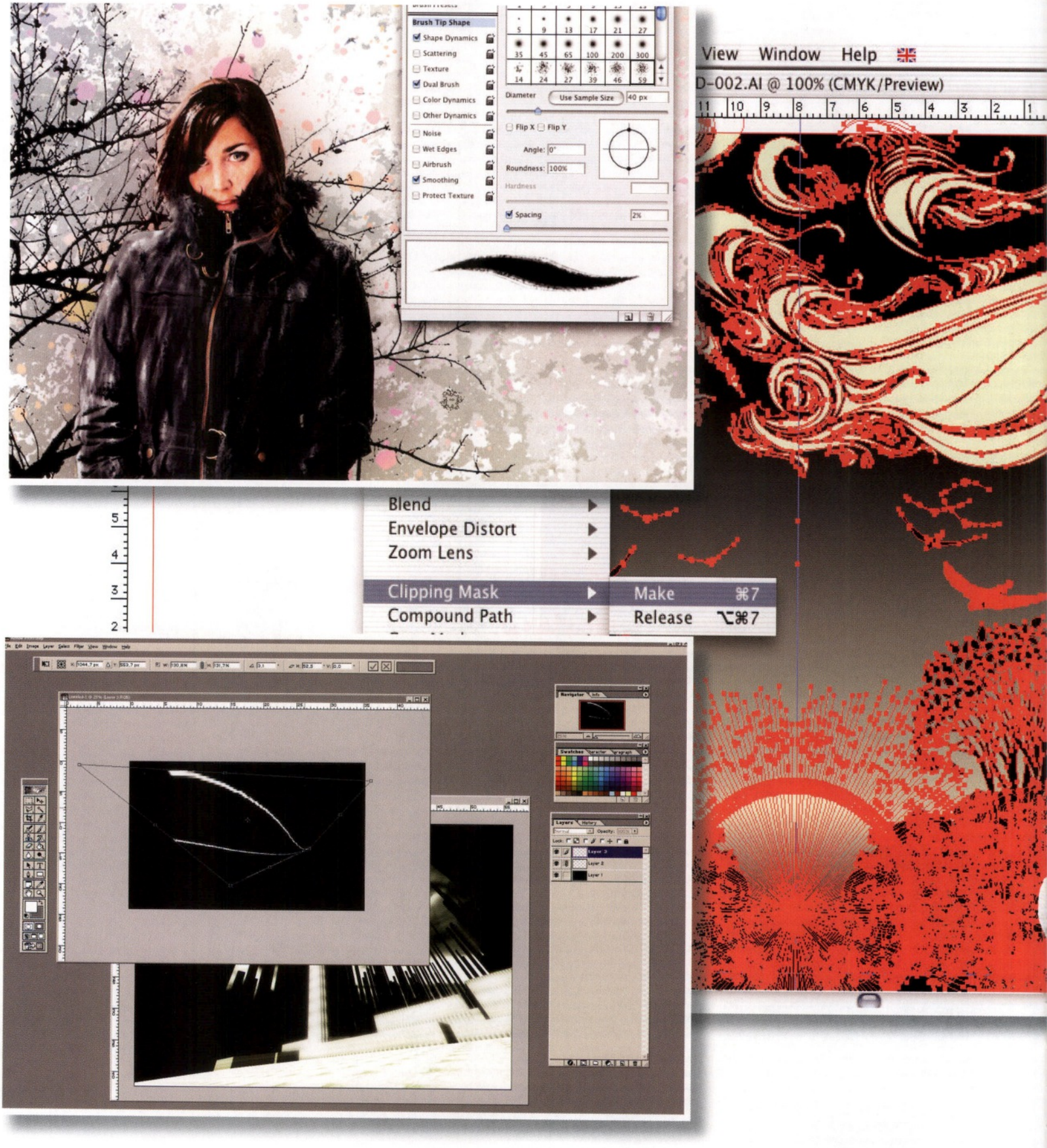
25 Open all the metaballs renderings from the DVD, and use the same method to introduce these into the image as separate, masked layers. Paste some of the metaballs and other 3D renderings into alpha channels, and use them to make coloured gradient-filled selections on various layers.

26 The file will now be big and sluggish. When you've finished working with layers, choose Layer > Flatten Image from the main menu; you'll be able to work faster once the image has been flattened. Create a new layer and use various brush tips to add painterly effects, and generally embellish the image as much as you like. ■

More about alpha channels

An alpha channel uses greyscale image data to store a selection in the Channels palette. By default, white represents the selected areas and black represents masked areas (or areas not included within the selection border). 0% black, or pure white, represents a 100% selected area, and 100% black represents a completely masked area. All greyscale values fall in between as specific degrees of opacity when a selection is generated from the alpha channel.

There is a way to make the channels work in the opposite way when storing and loading selections. Once you've created an alpha channel, the Channel Options dialog can be accessed in one of two ways: either double-click an alpha channel's icon, or select an alpha channel and choose Channel Options from the Channels palette menu. The dialog enables you to specify what the coloured area indicates: choose Selected Areas to make selected areas black and masked areas white. You can also change the colour of the masked or unmasked areas from the default red.

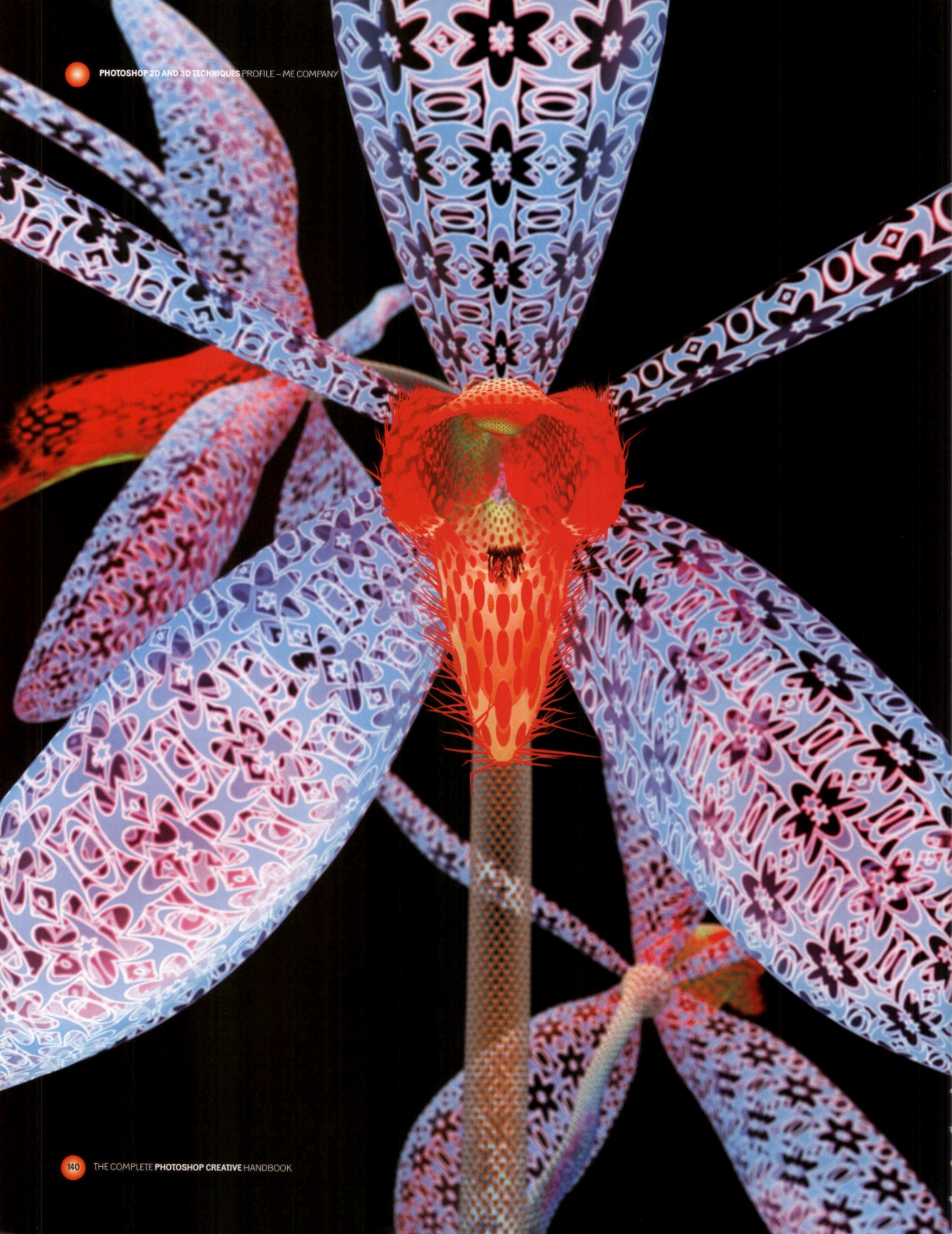

Brush Tip Shape
Shape Dynamics
Scattering
Texture
Dual Brush
Color Dynamics
Other Dynamics
Noise
Wet Edges
Airbrush
Smoothing
Protect Texture
Diameter
Use Sample Size
40 px
Flip X
Flip Y
Angle: 0°
Roundness: 100%
Hardness
Spacing
2%
View Window Help
D-002.AI @ 100% (CMYK/Preview)
Blend
Envelope Distort
Zoom Lens
Clipping Mask
Compound Path
Make ⌘7
Release ⌥⌘7

3

Photoshop 2D and 3D techniques

Though it started life as a simple image retouching tool, these projects show exactly why Photoshop's versatility makes it the world's favourite digital art application…

140	Profile: Me Company
144	Faces in Photoshop: Eyes
147	Faces in Photoshop: Noses
150	Faces in Photoshop: Lips
153	Multi-element artwork
158	Photoshop in fashion
164	Abstract type
168	Vector drawing techniques: book cover designt
172	COVER TUTORIAL: Add another Dimension
176	Pixel Perfect
182	Freeform 3D with Maya
188	Anaglyph images
192	Abstract Glow
196	Modern city composition
202	Spray can effects



Profile: Me Company

From Icelandic pop icon Björk to Japanese robot manufacturers, Me Company's clients are all after the same thing: "It's the element of magic," says founder Paul White

Far-left and above: Work for Numero, Paris, showing off the delicate hand of Me Company's artists, who are largely drawn from more traditional backgrounds than 3D.

Paul White set up Me Company way back in 1985, pulling together the various threads of his creative endeavours up to that point. Shortly after putting a name to an enterprise focused largely on the music business, Me Company found its decisive partnership with the diva of the North Atlantic, Björk.

Nearly 20 years later, the partnership with Björk continues to bear fruit, but new relationships have also been forged, with names such as Nike, Kenzo, Ford and Lancôme. The ranks have swelled and the technology has shifted up several gears, but the philosophy remains the same. "We operate a policy of pleasing ourselves," explains Paul. "We'd be faking it if we didn't stick with our principles."

Exotic space

Me Company's work, which somehow hints at a technological fairy-tale world we all dream of visiting, starts with a story. Talking about the process in relation to a set of textile designs currently being worked up for "a French luxury bag manufacturer", Paul White explains: "Most of the process just involves talking."

The core team of Ross, Jess and Paul sit down and discuss the project: "We ascertain what's interesting about it, then decide on what direction to steer the thing in." At this early stage, the direction of a project is decided by feeling towards the character of the job.

"We almost thrash out a little story with characters," says Paul, attempting to convey the experience. Not quite happy with that, he adds: "But not in the traditional sense." Once this story has been laid down, the ideas are developed, giving them a palette of ideas to work with. From this palette, Me Company draws its "exotic geometry".

Musical youth

"For 12 years we did nothing but music," says Paul, who was involved in the setting up of the One Little Indian record label. Already working in the field, producing graphics "which everyone thought were computer generated, but weren't", Paul's work began to circle ever more tightly around the music scene of the late 1980s.

Given the nature of the music business at that time, the potential for disaster was huge. But, sure-footed as he was, Paul began a creative partnership which lasted nearly 20 years. "Probably the most interesting projects I've been involved with came from the long-running relationship with Björk," he says.

From the sleeve artwork Me Company delivered for the Sugarcubes' first UK single, through the techno-polar bear of *Hunter* and down to the stunning artwork of Björk's *Homogenic* album, this has been a very fruitful relationship.

"It was great fun, creatively very free, and I liked them a lot as people," says Paul, perhaps a little dewy-eyed. But the course of true love never runs smooth: "As in most music business relationships it's the middle men that cause the problems."

Although the Me Company–Björk axis continues, the emphasis has shifted. "I got tired of the music industry itself," explains Paul. "I had enough of hearing the same bullshit from people that seemed to be getting progressively younger."

Another dimension

Although the majority of Me Company's output is in two dimensions, the production process involves three, "*XSI* is our illustration tool of choice," says Paul. "It's the way we express our ideas."

The results, which Paul calls 'hi-res stills', capture the world of possibilities Paul and his creative allies envision in response to a particular brief. What makes this work is a faith in the value of the creative process itself: "We follow a line that interests us and try hard to push things forward."

The move to 3D was an early choice for Paul: "As soon as I picked up something with a reasonable rendering engine I was transfixed." That package was the now antique *Infini-D*, the Mac's 3D bridgehead – "It had a really sweet little rendering engine," Paul recalls. While it was far from perfect, *Infini-D* was a brave new world for Paul, so he threw himself into it: "The very idea of ray tracing is absolutely incredible; I found it fascinating."

The fact that this route to design and illustration is so rarely travelled is still a mystery: "We couldn't understand why other people weren't as mad about it as we were. All the early Björk, Carl Cox and Riki Tik stuff was done with *Infini-D*."

Strange attractor

Though the practicalities may involve 3D, the backgrounds that make up Me Company are varied; what pulls them together is a shared aesthetic. Ross (Maria Rossmina Urien Lopez de Castro) joined Me Company after completing a BA and MA in fine art.

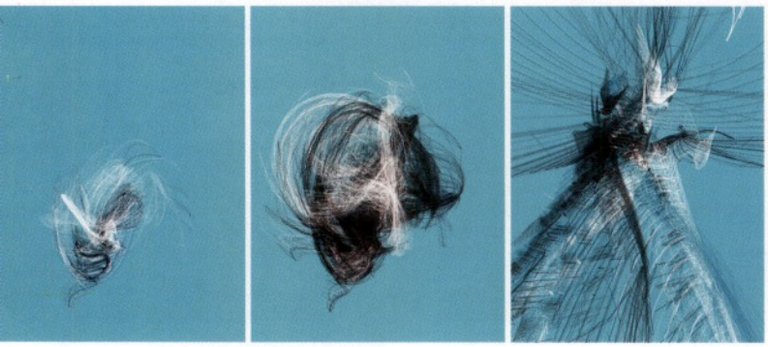
"I'm a 3D modeller now, but my background is in painting," Ross explains. "I came to Me Company because I was interested in the aesthetics. It's never been just about pretty pictures for me." The depth of content which drew Ross has, over time, attracted a team with an extremely broad range of talents, including writers, painters and sculptors.

"Clients come to us because we can solve a problem, or give a quality of solution that will help them succeed," explains Paul. "Sometimes we've had a client and wondered why they wanted us for the job!" The answer is the same whatever aspect of Me Company they're after: "It's that element of magic."

Hiding away

"We were recently asked by a big client where we'd been hiding away all this time,"

Below: Amazingly, scenes like this for Kenzo often aren't composited at all, but are constructed as a single environment. "Sometimes we might render the odd extra pass," says Paul, "but that's quite rare."



Above: Demonstrating Me Company's seriously cool credentials, this series of images are studies based on the movement of caged birds, produced for Lanvin, Paris.

Top-right: This portrait of Björk was produced for the Icelandic pop star's debut feature film *Dancer in the Dark*. The creative relationship with Me Company continues, but at a greater dilution.

says Paul. "I was flabbergasted." For anyone with a lower profile than Me Company, the situation can only be more difficult.

"There's a lot of good stuff around at the moment," says Paul, "but a lot of it fails to get the exposure." Fortunately, this doesn't hold Me Company back – its repertoire continues to expand, currently far enough to take in the development of a Japanese domestic security robot...

The company in question, Tmsuk, came to Me Company with a working set of tolerances and the underlying machinery in place, and the brief was to design a suitable exterior. "We were interested in character," says Paul, "but in a strongly reductive way." The final solution, out in May next year, uses lighting to suggest mood.

"We wanted something that would be comfortable in the home. We were aiming for somewhere in between furniture and robot, a kind of hybrid of the two," adds Ross, as if this might prevent the machine from going berserk and destroying civilisation. "We don't consciously search out new things, but if they seem interesting, then we'll take them on."

Don't look back

2001 saw the release of *Luminous*, the first Me Company book. "It was a snapshot of our work at the time," says Paul, keen to avoid any idea that it might be a summing up. "We steadfastly resisted the idea of an anthology."

This attitude seems to be a thread running through the Me Company philosophy. "Our work evolves, you always draw on your past. But there comes a point where the age of the work makes it pointless checking." The direction is very definitely forwards.

It seems there's a ground-up commitment to each project, something reflected in the working practice: "A lot of people do render passes and layers, but I like to compose the scene as a single 3D environment, light it and alter it in that state."

This is a demanding approach, and Paul's willing to admit that, "When we get pilloried by time issues, it's hard to maintain the pressure." But they do, and the results are amazing. ■

To find out more about Me Company, visit **www.mecompany.com**.

Above: This is taken from a pair of images used by Softimage to dress the packaging for *XSI 4.0*.

Me Company plays up the Manga style for Numero, Paris. Fashion editorial doesn't always get work of this quality – just as well, because Me Company don't mess about: "It's fine if people don't like it, we operate a policy of pleasing ourselves."

Above: The relationship with Kenzo produced some fantastic imagery, some of it incredibly baroque.

Right: Created for an exhibition at Berlin's Speilhaus Morrison gallery in 2003, this image shows off Me Company's darker side.

Luminous planetarium project

Japanese *Gas* captures Me in motion...

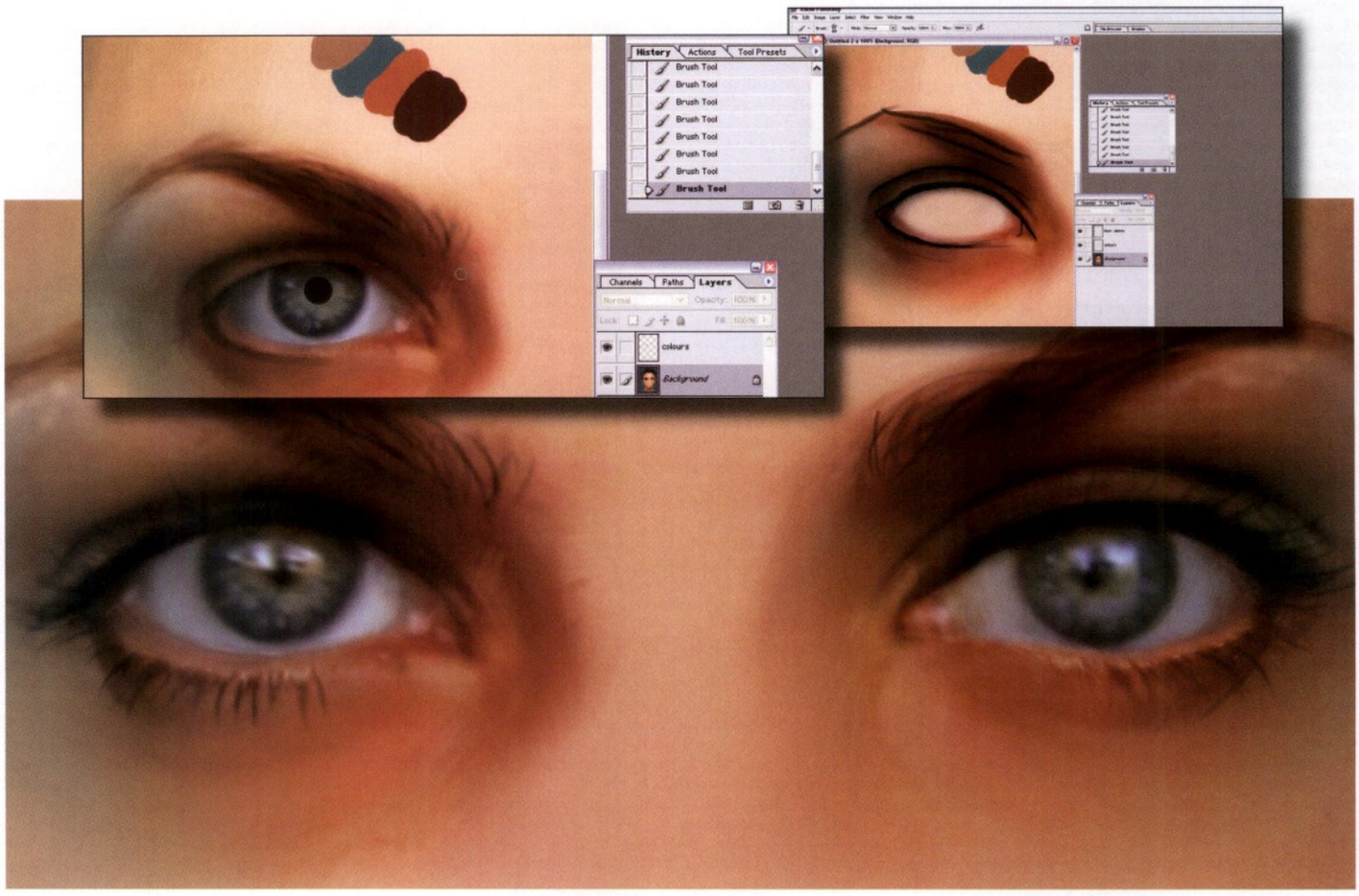
It sounds like the opening to a film: "The *Luminous* book coincided with an exhibition in 2001 at a disused planetarium in the Ginza district of Tokyo." Following hot on the heels of *Luminous*, Me Company appeared in Tokyo to show its work, initially says Paul, considering a very standard approach to the project.

"We started off thinking we'd do a series of slides and just talk over them," he recalls. "But eventually this evolved into an animated sequence of images." In time-honoured fashion this was done with moments to spare: "We put the whole thing together in two weeks... there were a lot of late nights."

The makers of *Gas*, the influential Japanese series of design books, were present at the event, and wanted to turn the show into a DVD. The final film is a meditative piece of visual experimentation, which captures in motion the colour and form that characterises Me Company's output.

These images are taken from Me Company's work for the Luminous exhibition, Tokyo 2001.

Faces in Photoshop



Swedish artist and designer **Linda Bergkvist** demonstrates the skills involved in painting lifelike portraits – taking a step-by-step look at creating detailed eyes, noses and mouths

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Draw great eyes+Paint perfect noses+Bring lips to life

Part one: The eyes have it

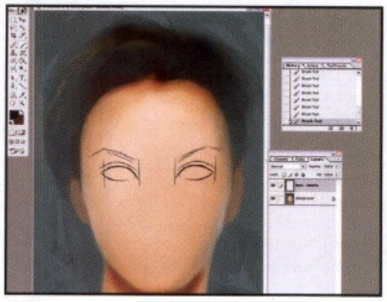
When I first started painting eyes, I had little to guide me but my own obsession. To me, the eyes have always been the most fascinating part of the human face. As a designer, I feel that if you paint lovely facial features, but fail to capture life in the eyes, then the face will always look like that of a doll, rather than that of a human being.

Figuring out how to capture this vital spark of life took me many years. The fact that eyelashes don't start right under the eyeball, for instance, proved to be a very important discovery, as did understanding the workings of the lower eyelid. With the help of this tutorial, I hope to help you eliminate this trial-and-error process and to avoid making the mistakes that I made, so that you start creating great eyes sooner, rather than later. Painting a realistic eye isn't everyone's goal in life, but even when painting a more stylised or even a cartoony eye, knowing the basics gives you a wonderful advantage.

I paint using *Photoshop 7*, but the process can easily be followed in any other paint application. Oh, and it helps (a lot) if you use a pen and tablet, rather than a mouse.

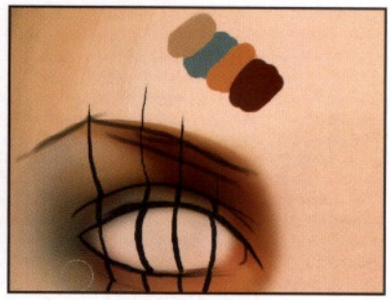
Painting eyes

It can take years to learn to paint eyes well, but just hours to learn the basics...



1 First off, remember that, measuring from the top of the eye to the chin, the eyes are situated half-way down the face. You'll also notice that there's room for five eyes side by side across the width of the face. At this point, sketch in the eyes, keeping the sketch on a separate layer.

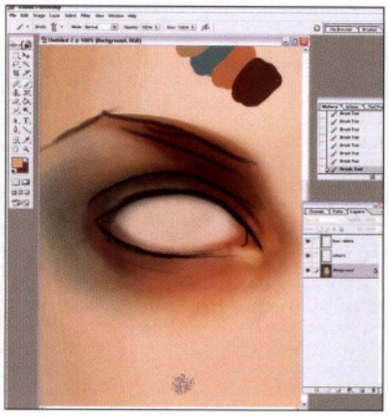
2 Now set up a swatch of colours to use; this makes the process much easier. Swiftly sketch out the basic shapes around the eyes, keeping in mind the shadow from the eyebrows. Use a spackled or soft-edged brush with light pressure.



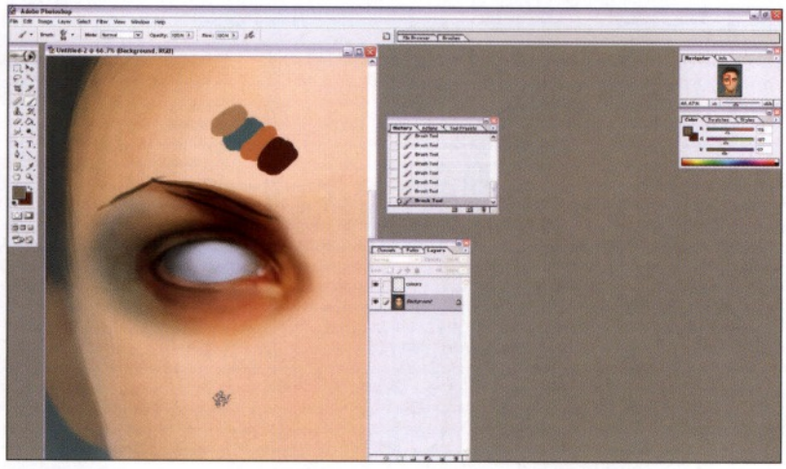
3 To make understanding the surrounding shapes easier, sketch out imagined lines running over the eye, brow and cheek. This helps when trying to figure out how to bring shapes forward without the help of lines.

Use a tablet

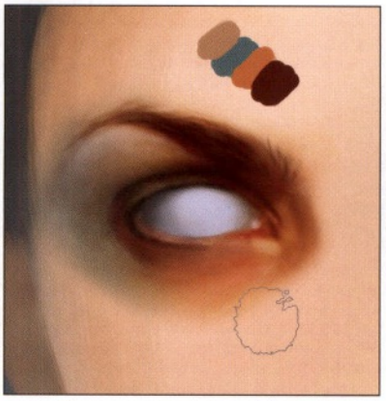
Instead of painting with a mouse, invest in a digital pen and tablet. Even the cheapest variant will serve you better than a mouse. A good pen is pressure-sensitive, and holding a pen and 'painting' with it is far more natural than using a mouse or a keyboard, particularly when it comes to curves, lines and gradients.



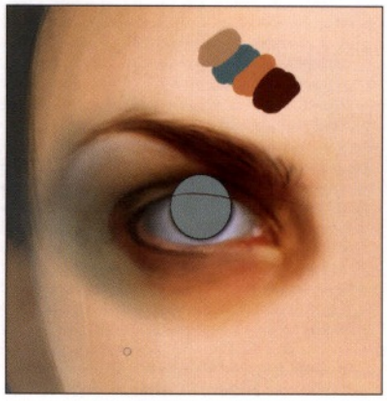
4 Using a spackled brush, find the hidden details of the eyes. Brush around the lower lid and upper lid – both in shadow in this case – and don't forget to bring out the corner of the eye. It's very easy to paint in only the upper lid and, as a result, create an eye with a very flat, unreal appearance.



5 Depending on the kind of light affecting your subject, the eyeball will be made up of a range of different colours. Note that, whatever the lighting conditions, the eyeball will never be pure white. Here, for example, it appears as a faint blue-grey. Also remember that the eyeball isn't the shape that shows; it's a round ball, half-concealed by the lids, so shade accordingly.



7 When painting the eyebrow, first use a dark colour and a small round brush to draw clumsy, scattered lines. Next, using the Smudge Tool, gently go back over the lines with an uneven brush; this will give the hairs a very natural look.

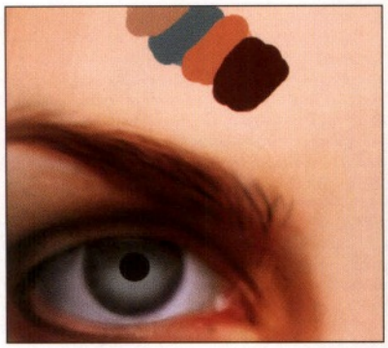


8 The best way to start painting the iris and pupil is by creating a round ring on a separate layer. Delete the section of the circle that will be hidden underneath the eyelid, and then click the Lock setting within the Layers palette.

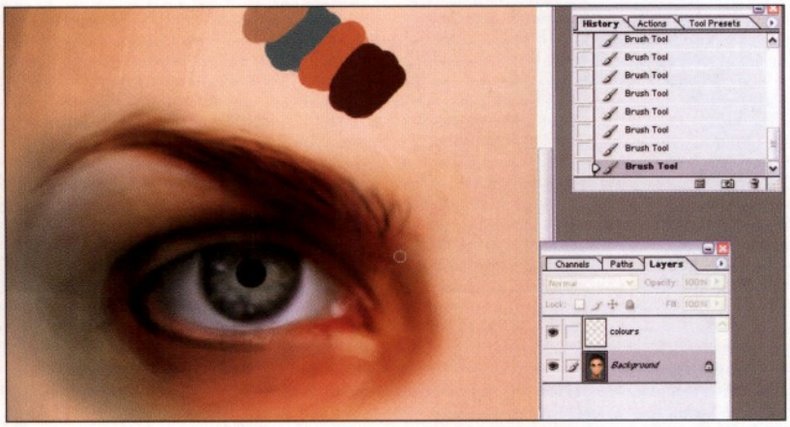
Painting eyes, continued...

Zoom in, zoom out

Work at a higher resolution than you need to, and zoom in and out of the image to get a better view of it as a whole. The details you will add that might not be seen easily in a smaller version are still there, and add greatly to the realism of the final picture. Small colour variations in the iris of an eye, for instance, might not be visible from afar, but they still add depth.



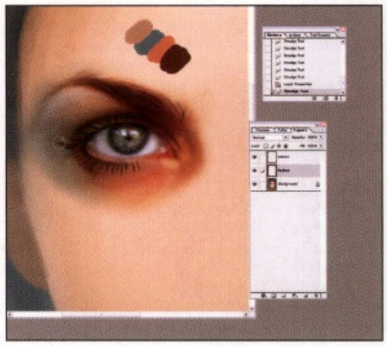
8 Using soft brushes, shade the edges of the iris, as well as where the shadow of the eyelid would fall. This is important, as it gives a depth to the gaze of the eye. Quickly block-in the pupil, even though it'll be mostly hidden beneath the highlights.



9 The iris should be heavily textured. To accomplish the layered effect, ensure that you use multiple colours and a soft brush, and simply build up blotches of colour over and over each other, until the illusion of depth is created.

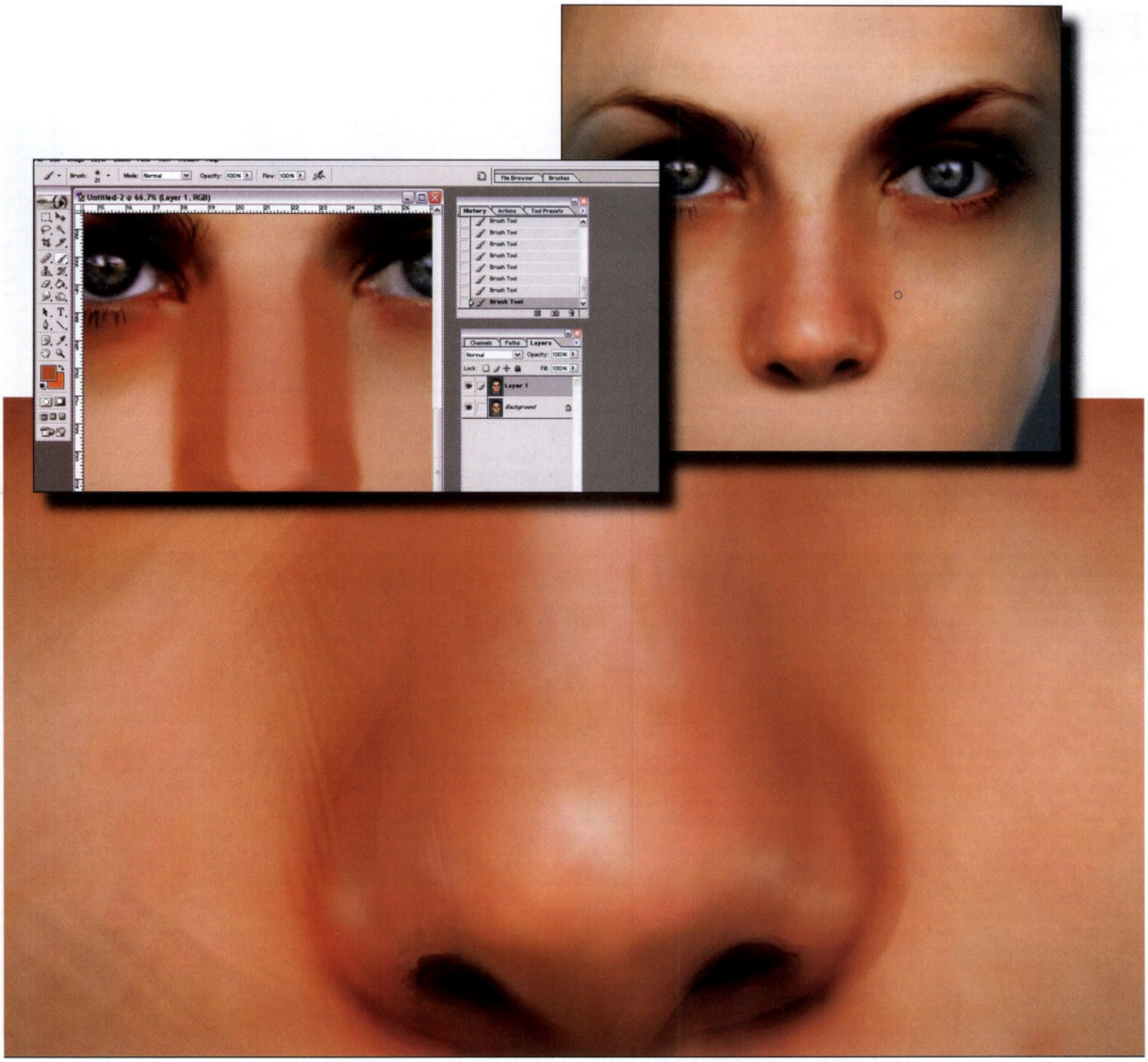
10 The highlight in the eye is ultimately what creates the impression of life. Ensure that you paint it on a separate layer, as this will make breaking it up easier when required. The highlight always looks best if it's vaguely the same colour as the eyeball, but much brighter.

11 In extreme close-up, additional depth will need to be added by touching-up the last texture, and breaking up the highlight to achieve a more realistic effect. Flatten it down, and gently smudge and paint until the desired look is achieved.



12 Lashes can be extremely easy. On a separate layer, paint in quick strokes to resemble lashes. In real life, lashes are rarely uniform in shape and size, so make sure that some cling together, and others point in different directions. Smudge lightly in areas you feel require more depth.

13 Finally, use the handy Eraser Tool to thin the lashes out before you flatten the layer down. Next, use a light ruddy colour to add the last details needed for realism. Most of the time, the topmost lashes are angled more forwards than upwards – a detail often overlooked.



Part two: Perfect noses

When artists are creating digital faces, they often fail to appreciate that the nose is every bit as complex as any other feature of the human body. Artists who are still learning their craft often slip up here. This isn't just a boxed-in shape or a shapeless blob stuck on as an afterthought: there are angles, planes and subtle curves that work together to form a complicated feature. Most importantly, perhaps, you need to remember that the nose isn't some pyramid or box jutting out from a flat plane – it's part of a broader landscape.

In this tutorial, I'm going to explain the varied techniques you need to master, and the methods you need to think about when trying to paint a convincing nose. Just like the eyes, the nose can make or break a face.

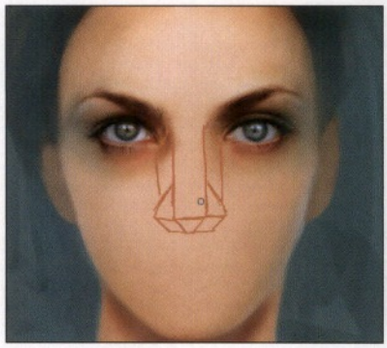
People tend to forget to add subtle colour variations, texture and small inconsistencies. Unless heavily and horribly altered by plastic surgery, a nose will have quite a lot of personality in itself, and you need to spend some time on it for the best results. The eyes are what give a face its life, but the nose provides its character.

Painting noses

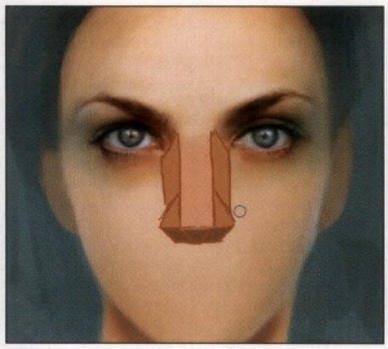
Painting a nose is easy, but painting one that looks convincing isn't...

True colours

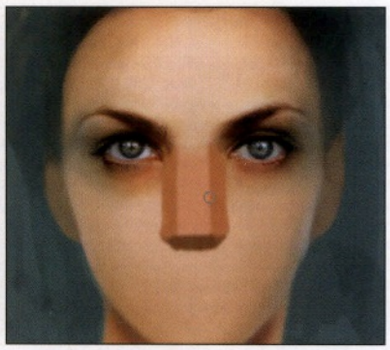
When painting a nose, use warmer colours than you would when painting eyes. The shading around eyes is usually cool, so pick warm tones for the nose, and strengthen the effect by using cool, blue highlights. When finely applied, these highlights won't look blue at all, but will merge flawlessly with the rest of the colours.



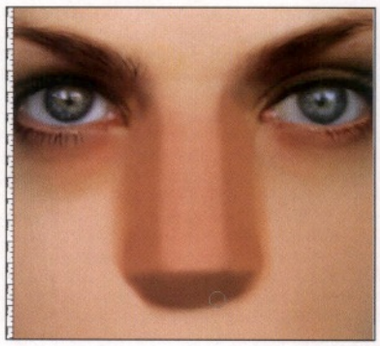
1 You can divide any nose into a group of shapes for easier drawing. This kind, with an uppity tip, can be divided into eight, as shown. Start work on a new layer if you're using your image from the eyes tutorial, or a new document if you're not, and quickly draw in the outlines of the shapes.



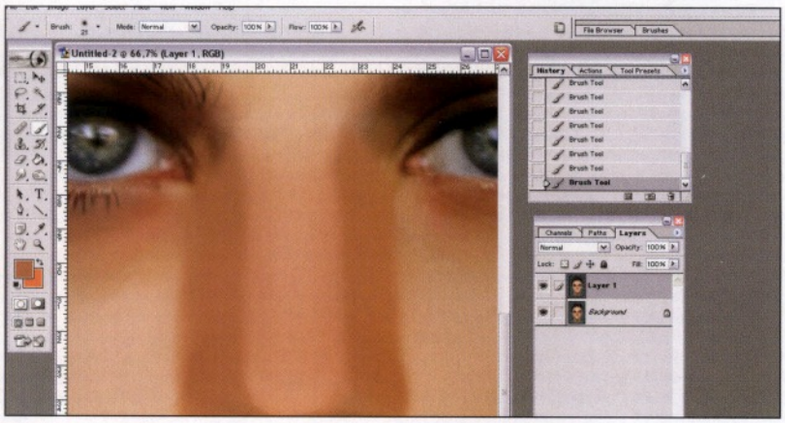
2 Create a new layer underneath the lines, and block-in areas of colour. Using the CD file steps-nose.psd as a guide, pick the midtone from under the eyes, the shadow from under the eyebrows and the lightest colour from the face (but make it more pink).



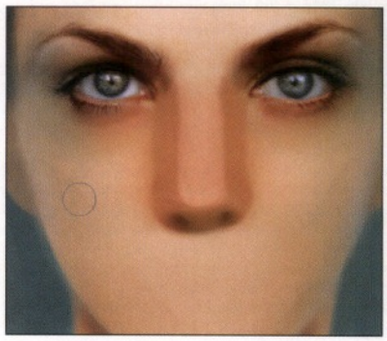
3 Remove the layer with the lines, and use the Gaussian Blur filter to make the edges less sharp. Blocking the nose in like this ensures that it remains straight, and that the colours 'work' with the face.



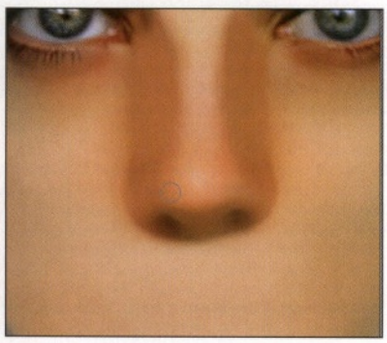
4 Picking a soft-edged brush, go over the edges to ensure that the transition between the face and the nose isn't quite so sharp. A nose doesn't pop out of nowhere, so its edges should be smoothed seamlessly into the rest of the face. The lighting here is very bland, so the shadows won't be strong.



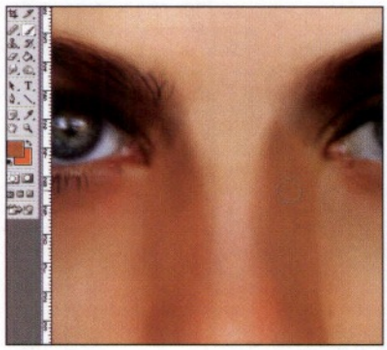
5 The tip of the nose shouldn't be a sharp block. There's usually a nice, smooth curve that runs from the edge of the nostril to the extreme tip. The nostrils themselves follow this curve, too, so paint them in with a dark tone, but not absolute black.



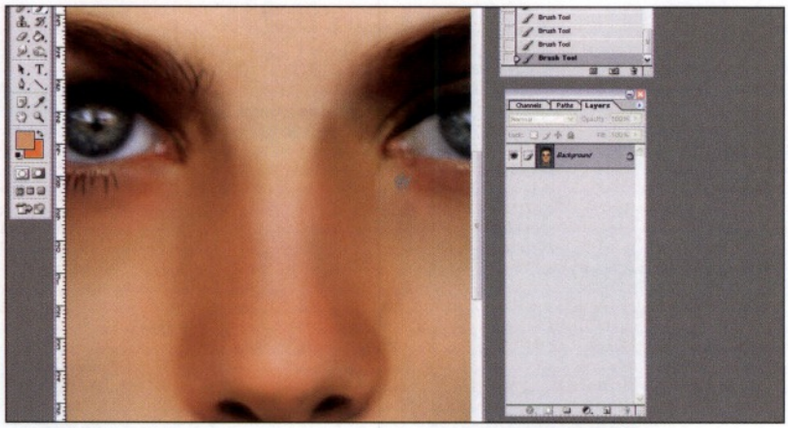
6 Now to make sure that the nose fits into the face. Pick a large, soft-edged brush and gently coax the face around the nose into shape. Shade the cheeks towards the edge of the nose, so that you can feel the shape of the face merging with it. This will blend the edges of the nose nicely into the rest of the face.



7 To shape the tip of the nose, use warm, reddish tones, and imagine that the tip is softly rounded. Make the bridge of the nose narrower, and soften the transitions between the colours, keeping the bridge paler in colour. With the tip darker, its highlight will be same shade as the bridge higher up.



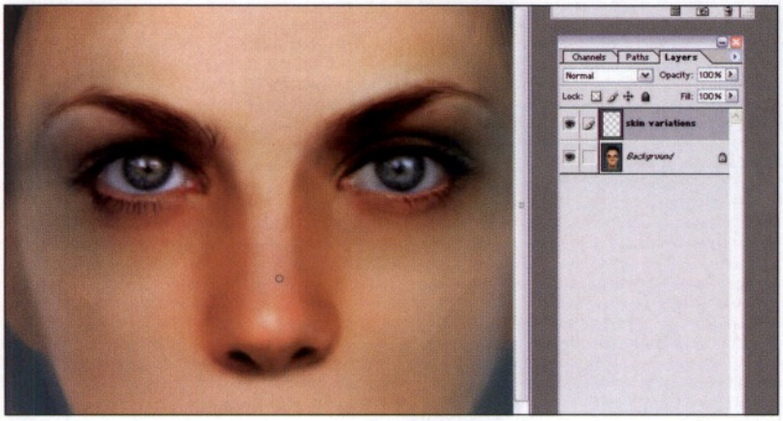
8 Remember that lines on a nose are rarely extremely straight or perfect. Imagine a nice, natural line to the bridge of the nose, and follow it with a soft-edged brush. It's important at this point that the changes in tones feel natural; there should be no sharp edges now, and the slope from the bridge to the face should be softened.



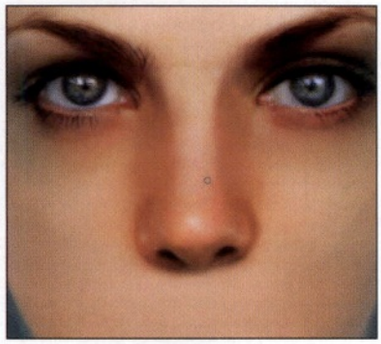
9 On the tip of the nose, choose either a sharp-edged brush or one with ragged edges, and carefully darken the nostrils and sharpen the shadows. Imagine where the light would be coming from, and shade accordingly – in this case, darkening the area that would be in shadow.

Soft Light layers

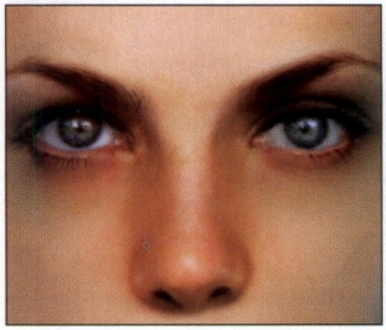
A nice trick when you feel too lazy to pick different colours for every little bit of texture is to use the underlying colours by painting the texture on a layer with its blending mode set to Soft light. You'll lose some valuable control over the exact nature of the colours, but win time that you can use to perfect other things. This is also a good way to make colours more intense – pick the colour with the Color Picker, and paint it on top in the Soft Light layer.



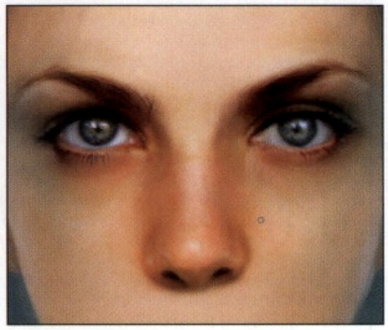
10 Now you'll need to break the too-smooth graduations up. Skintones are rarely as smooth as this nose looks, so use the Color Picker to very gently break the colours up. If you apply colours with very light pressure, you'll achieve a natural skin effect.



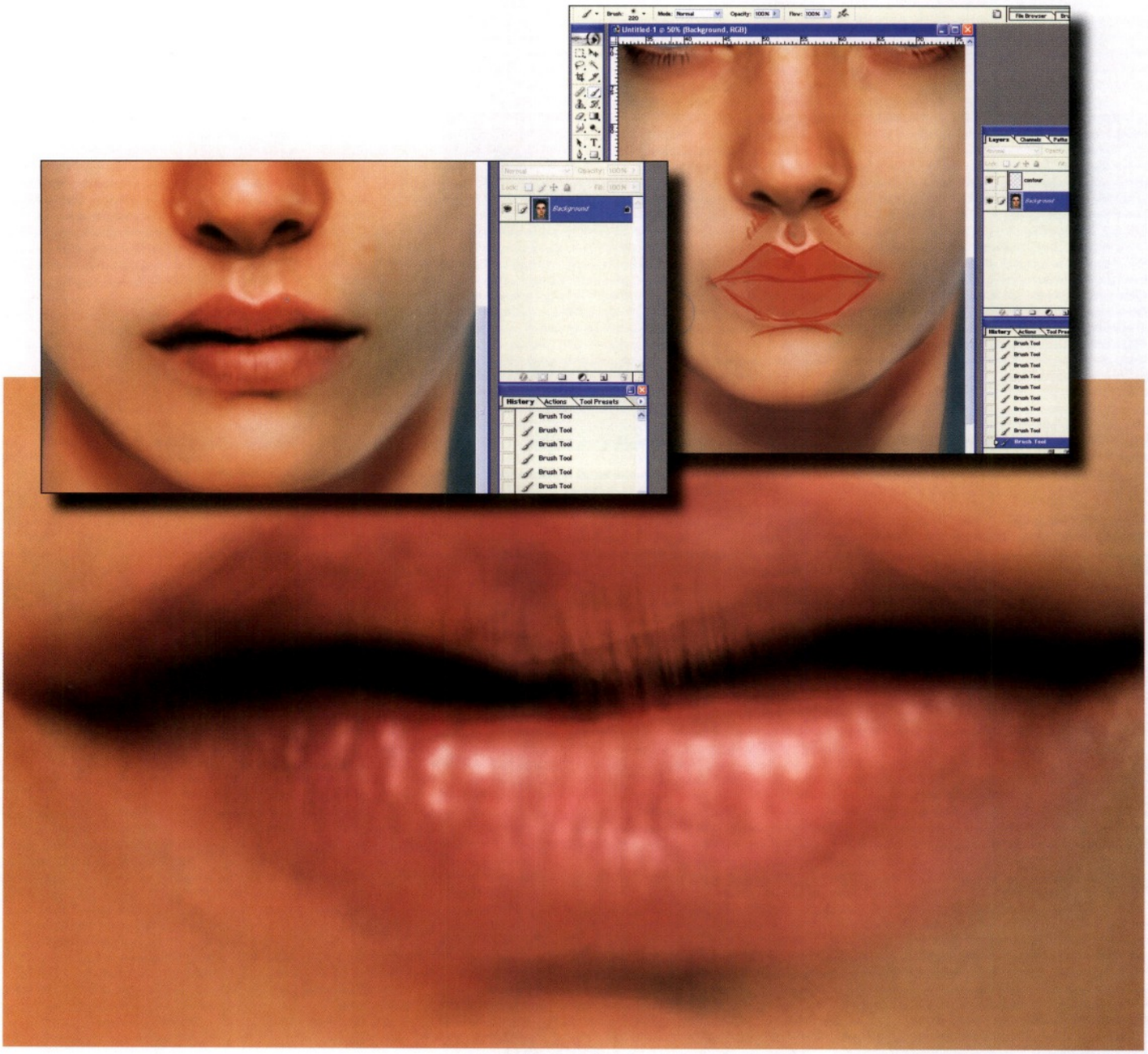
11 Pick a brighter highlight colour, preferably one that's slightly blue in tone. Use this colour to carefully brush in highlights on the high point of the nose and over the nostrils. The nose will change shape drastically, depending on how you place these.



12 At this point, it's extremely important to work on the textures. If you want a convincing look, keep breaking the skin tones up. Use soft, delicate colours and a soft-edged brush to dot your way over the nose for a nice texture. If you wish, create a new layer, set it to Soft Light mode, and paint textures there instead.



13 As a finishing touch, repeat the texturing across the cheeks, and, if you wish, paint it over the transition towards the eyes as well. It's important that the nose 'fits' naturally on the face, rather than looking as if it's been pasted carelessly on top of it.



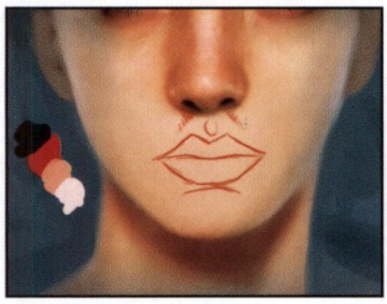
Part three: Bring lips to life

If the eyes add expression to a face, and the nose adds character, then the passion and humanity is contained in the shape of the lips, and it's this important feature that you'll create in this final instalment. Just think about the thousands of different kinds of smiles there are. A smile isn't necessarily nice or pleasant; instead it can portray a complex set of emotions. So, when you paint a feature that can express so much, it's important to pay extra attention to what you're doing. If the lips are messed up when you start off, how will you ever get them to show the emotion you're after?

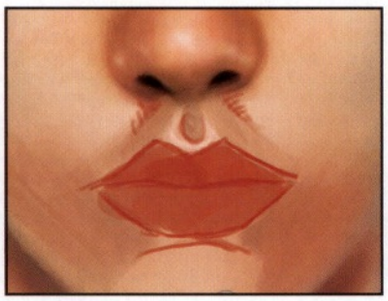
In this tutorial you'll be shown step by step how a pair of lips can be painted convincingly – then it's up to you to apply these techniques in the best way to convey feeling and emotion through this, the most sensual human feature. It's best to use *Adobe Photoshop* to paint, but the techniques outlined here can be easily applied in other programs too.

Painting lips

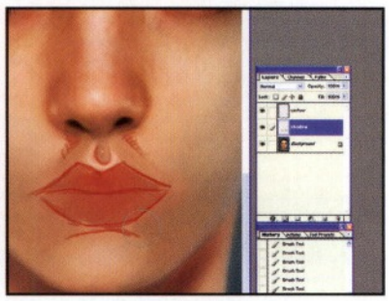
Create lips that add instant personality and life…



1 Before you get started, on a new document or your work in progress from the previous tutorials, sketch the mouth and the shapes around it on a new layer. This will help you to concentrate on the area around the mouth, which has more 'form' than the mouth itself.



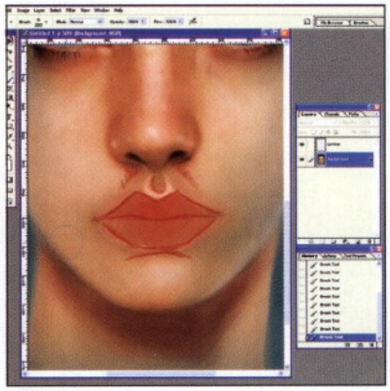
2 Now zoom in and create a second layer. On this layer, roughly sketch in the hills and valleys of the dent above the upper lip, the chin, and the lower part of the cheeks as shown, using a sharp-edged round brush.



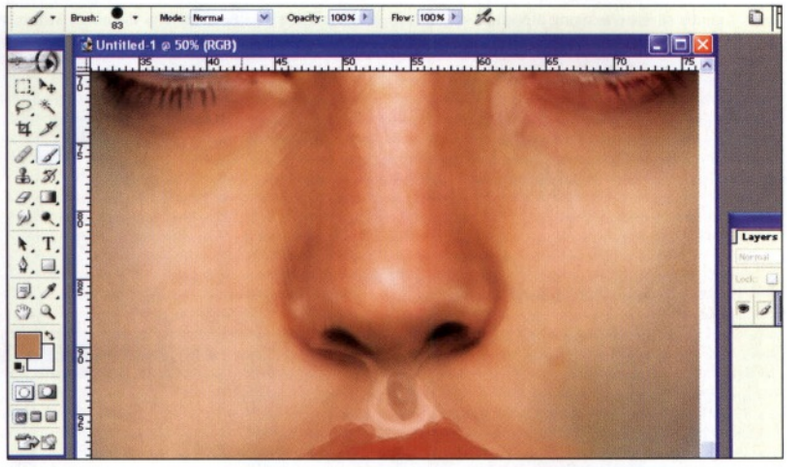
3 Again, using a soft-edged round brush set to a low Opacity, carefully start to soften the shapes you sketched in the previous step. Gently apply highlights – particularly on the top of the chin, and around the dent that sits above the upper lip.

Different strokes

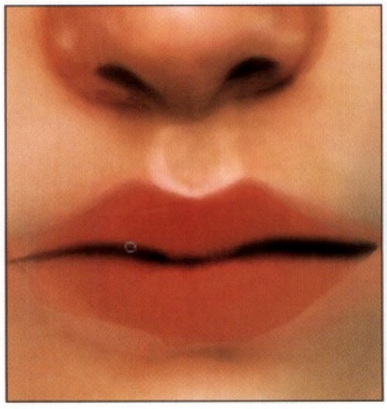
It's worth exploring the possibilities that the Brushes palette has to offer. Try out different settings and effects – just because you've found one brush that you enjoy doesn't mean you've found the one that's best for all the different things you want to paint. Why not try making your own, and don't forget to take advantage of the various settings; if you're using a pen tablet, the possibilities are endless. Don't let force of habit keep you from exploring.



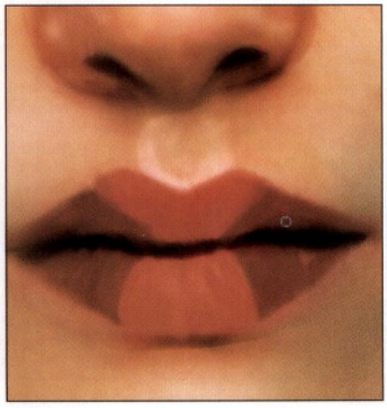
4 Continue to identify the surrounding shapes, and gently ease the transition between colours, using a range of colours chosen from the surrounding picture. Bear in mind that the area around the chin will probably show reflected colours from your background; here they're bluish.



5 Delete the layer with the obvious outline, and flatten the image. Already, you'll see the shape of the lips. Colouring the lips by painting the surrounding area first ensures that they don't look 'pasted in' – otherwise they'll look awkward on the face.



7 Pick a rich, warm red colour, and fix the contour of the lips. Now use a darker, more unsaturated colour to paint in the vague line between the upper and lower lip. Remember that the line shouldn't be straight.

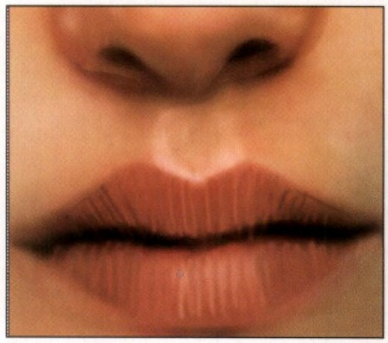


8 Before texturing the lips, paint in shadow in a very exaggerated manner. Don't be afraid to be bold, as you'll paint back over all of this later. It's probably best to do this step on a new layer, in case you mess up!

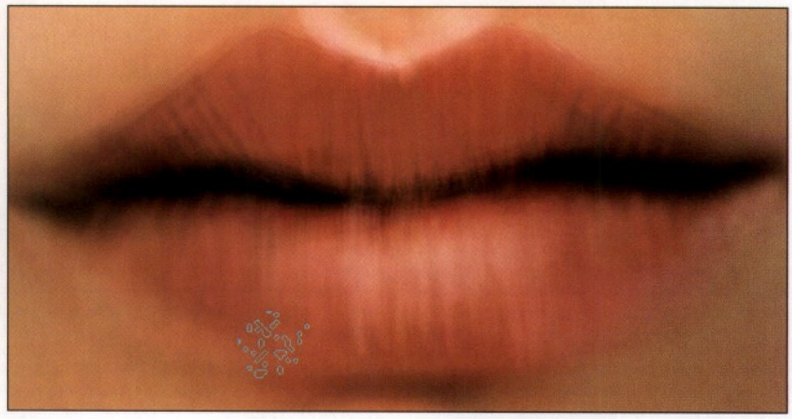
Painting lips, continued...

New layers and flattening

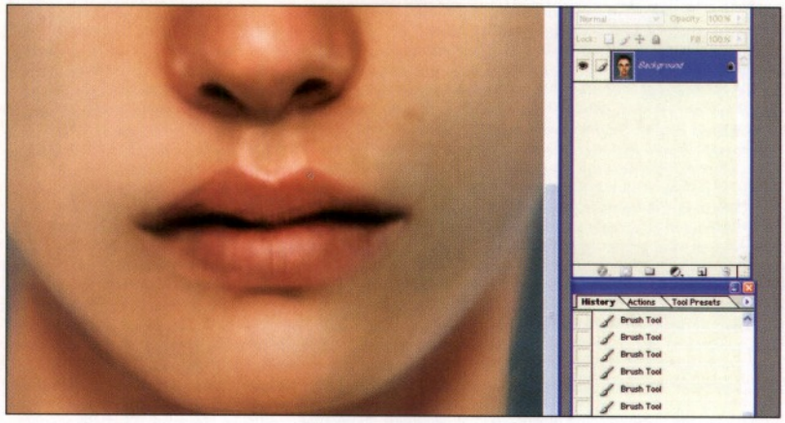
Using a strong colour and then partly painting it over with a less saturated one is an excellent way to make a colour glow through. It adds a luminescent effect that's difficult to achieve by picking just one colour to begin with. This is an excellent trick to apply on skin.



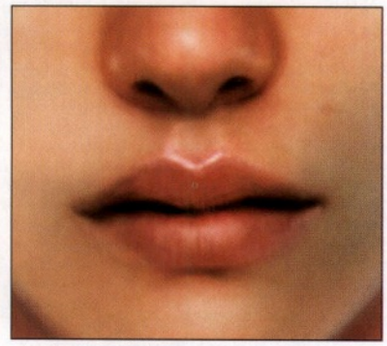
8 Using another new layer and a very small brush, apply really light pressure to paint sloppy lines that run up and down the surface of each lip – first on the upper lip and then on the lower. For each new colour you use, make sure that you first brush it gently all the way along the whole lip.



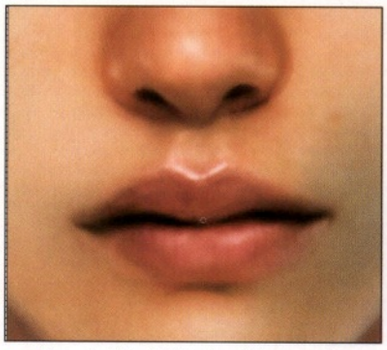
9 Now, using a spackled brush, gently go over the lip again. You'll notice later on that a lot of this detail will be painted over, but it's not wasted work. The work you do now will still texture the lip discreetly; you just won't be able to identify the effect, which is the look you want.



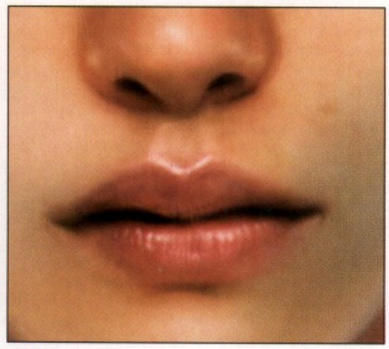
10 With a soft, rounded brush, go over the contours of the lips once again. Unless your model has a lot of lipstick applied, you shouldn't have a sharp, dark outline.



11 With the mouth in close-up, pick a cooler, almost white colour, and use it to add some moistness to the lips by picking out a few sharp highlights on the outline of the upper lip. If you can, try to paint the lines with light, quick touches instead of heavy lines.



12 If you feel like it, bring in a little more pink into the lips, and find some more highlights as shown above. Now pick out the lighter areas on the two 'pillows' of the bottom lip using the same cool white that you used to outline the upper lip in the previous step, but this time apply lighter pressure.



13 Finally, dot out some more texture all over the bottom lip. Try to paint the highlights vertically, but not in even, uninterrupted lines. It's best to use a slightly soft-edged brush with pressure sensitivity enabled for both Opacity and Size.

Multi-element artwork

You can use practically every Photoshop tool and feature to enhance an image, as long as you know how to mix and match them effectively. **Danny Franzreb** reveals how to successfully combine a range of techniques and materials

Chances are you already know how to work with vector shapes in *Illustrator*, and even directly in *Photoshop*, so now it's time to start building on these skills, and learn how to successfully apply a range of new techniques to photos or scanned images to create smooth yet detailed illustrations.

This tutorial doesn't use vectors – although the final result will partly look as if you have. By photographing elements such as trees and plants directly against the sky, with the sun as a backlight, you can create solid shapes with high contrast that are easy to extract.

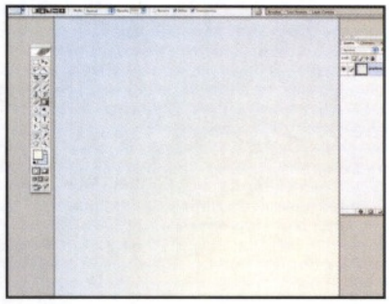
You'll use scans of solid ink that seamlessly blend into snowflakes to support the overall feeling of the piece, and discover how to transform photos into hand-drawn illustrations with the help of *Photoshop's* filters, blending modes and brushes.

Having created a new layer with a second version of your photo, you'll then apply a filter (such as Dry Brush) to stylise the image a little, or create a high-contrast black and white version by tweaking levels and saturation settings. Afterwards, you can add an illustrative mood to your photo by fully masking that layer out, and painting back details of the stylized version with a soft brush. A graphics tablet, with its support for dynamic shape drawing functions, could come in handy here.

To add complexity and textures, you'll also work with resources such as coffee scans, and photos of dirty walls. If you know how to treat such materials, they can help you create beautiful visuals over and over again. ■

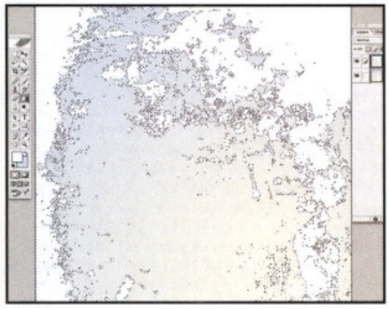
Create a winter montage...

1 First sketch your piece, as this will speed up workflow later. Note, however, that you'll be able to resize or colour some of the elements as you introduce them, so you don't need get everything exactly right at this stage. Ensure that you place related elements into layer sets.



2 Open winter_world_start.psd from the cover DVD. Select the Gradient Tool, set to a Radial Gradient and containing colours ranging from light yellow (#FFF9E9) to light blue (#D1DCE9). On a new layer, draw a gradient from the bottom-left to the top-right corner.

3 Open background_01.jpg from the DVD and invert the image. Set Saturation to -100, and modify the Curves to Input 80, Output 20 or Input 120, Output 200 to create a high-contrast image. Use Color Range, with Fuzziness set to 10, to select white pixels, and copy and paste them into your main file. You can modify the size, position and rotation of the white shape using Free Transform.

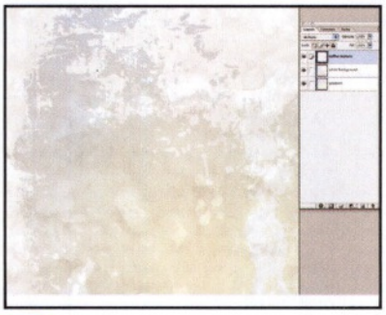


4 Ctrl+click the new layer to select the white pixels, invert your selection by choosing Select > Inverse and feather (Select > Feather) with a Radius of 2 pixels. Clear the selection to create a smoother border around the white area that melts into the background. If you feel that the white isn't solid enough, move the right slider in the Levels dialog towards the middle.

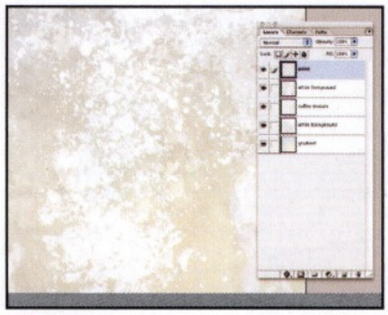
Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Mix Photoshop & Vector

Illustration by Danny Franzreb www.taobot.com

Create a winter montage, continued...



5 Open coffee_texture.jpg, paste it over the white shape and change the new layer's blending mode to Multiply. I created this texture by drawing with coffee on a white paper, scanning the result in as a black and white image, and reducing the contrast a little. It adds detail to the background without being too obvious, and without disturbing the foreground elements you'll be adding later.

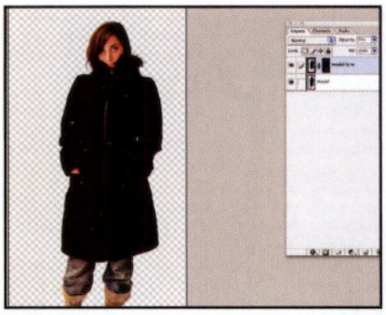


6 Open background_02.jpg, make a Color Range selection (as in step 1) and paste the white structure into your main file. Modify the white area so it spans the whole background. This shape should remain white, so keep it on top of the layer stack. Open a white paint graphic from the DVD (small regular dots are best), make a Color Range Selection (Fuzziness 50 or less) of the white areas, and paste it into the centre of your graphic. Modify the Levels.

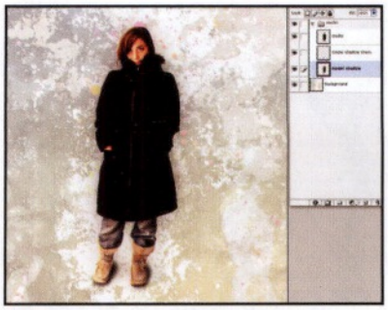
7 Duplicate the paint layer another four times, and move the copies into each corner of your main graphic. Merge the five layers and right-click (Ctrl+click) the resulting layer to select the white dots. On a new layer, paint subtle light pink and yellow colours into the selection using a soft-edged round brush (200 pixels, Opacity 10%). Now merge all of the layers, and manipulate the Levels of the merged layer until you're happy.

Image resources

Stock photography is a must, so either visit an online database such as **www.istockphoto.com**, or use the stock images on the DVD. However, nothing can beat your own database of original photographs. Make sure you carry a digital camera wherever you go, and don't compromise on image quality. At the least, invest in a six-megapixel SLR – your work will benefit from the quality.



8 Open model.psd. Duplicate the model layer, set Saturation to –100 and increase Lightness. Create a layer mask, mask everything, and paint back some of the grey areas with a light natural brush set to low opacity). Remove some colour from the face and legs, and paint highlights into the coat. Copy the image into your main psd, and transform the model to the same size and position as the final graphic.



9 Duplicate the model layer and right-click (Ctrl+click) to select the model. Use a soft brush to add light pink and yellow colours to the model. Apply a Gaussian Blur with a Radius of 50 pixels to the new layer, and move it under the first model layer. Set the layer's opacity to 50%. On a new layer, below the model layer and above the blurred model layer, draw a small shadow by the feet with a soft, dark brush.

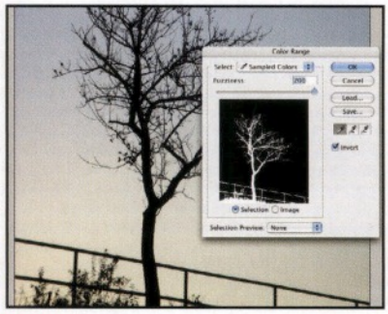
10 Next, the ground layer. We prepared a photo of a dirty street by isolating the black parts using Color Range, and, on a new layer, painting over some parts with light purple and blue. Copy the graphic out of ground.psd, and paste it directly above the background layer. Also add black paint to the model's left arm and to the coat (use a Color Range selection of the black paint source files from the DVD, and transform them accordingly after copying them into your working psd). Merge the black paint layers into one.

Create a winter montage, continued...

Get organised

Keep your work on separate layers, so that you can adjust each detail in isolation whenever you want. Also name your layers, set up naming conventions and use layer sets to structure your work. At first this might take a little extra effort, but you'll be more than happy you did when you pass your piece to a colleague, or open it in a few months to make small modifications.

11 Open birds.jpg. Select the blue background by going to Select > Color Range and sampling a blue from the midtones (Fuzziness 150), and invert the selection. Copy the birds into your psd, set the layer's Opacity to 50% and duplicate. Move this layer beneath the birds layer. Right-click (Ctrl+click) the layer to select it and paint light blue, yellow and pink into the layer with a soft brush. Give the layer an Opacity of 50%, and set the layer to Multiply.



12 Import the tree from tree.jpg. Make a Color Range selection from the blue in the middle, at a Fuzziness of 200. Invert the selection and use the Lasso Tool set to 'Subtract from selection' to deselect the black lines around the tree. Copy the tree into your psd, and adjust the levels until it's dark. Alter its size and position it on the left, behind the model.

13 Right-click (Ctrl+click) the model layer, and add a layer mask (to mask out everything around the model). Duplicate this layer twice, and place both under the model layer. Name them 'model head/legs' and 'model coat'. In the 'model coat' mask, use the Lasso Tool to select the coat, invert your selection and fill with black. Only the coat should remain unmasked in this layer. Make sure the coat layer is located above the head/legs layer.

14 With the 'model head/legs' layer selected, go to Image > Adjustments > Threshold, and enter a Threshold Level of 100. Do the same with the model coat layer, but set the Threshold Level to 20. Inside the mask of the normal model layer, start drawing with a black natural brush, using low Opacity settings of between 5% and 20%. Also experiment with Shape Dynamics and the Dual Brushes option. The aim here is to create a subtle blend between the photo and drawing.

15 Open the bush photos from the Bushes folder on the cover DVD and apply the same technique outlined in step 12 to copy them to your psd file. Resize and position each bush at the bottom of the graphic. If a few parts start to overlap, erase them until the bushes fit together well. Now Merge the bush layers. The resulting layer should be located above the model layer.

16 Create a new layer and draw a black line (solid Brush, Opacity 100 per cent) from the roots of the tree around the model's body. Now Ctrl+click the model layer and Invert the selection so that everything except the model is selected. Hold down Shift and, with the Lasso tool, add the body parts of the model to your selection where the line should be visible. Now, with the line layer selected, create a New Layer Mask. The line should now wrap around the model's body.

17 Duplicate the layer, and place the duplicate beneath the original. In the new layer, delete the mask without applying it. Right-click (Ctrl+click) in the model layer, and use the Lasso Tool+Alt/Option to remove areas where the line crosses behind the body. Create a mask and use a Gaussian Blur (20px) on the line. Unlock the layer mask, move the line a little below the original and set the layer's Opacity to 90%. Repeat steps 16 and 17 to create a line around the model's feet, and a wider line on the left-hand side.

18 Open flowers.psd from the DVD, copy the graphic and place it at the bottom of the tree. Now open flower_01.psd, copy it, then paste it and position it on the model's left shoulder. Right-click (Ctrl+click) the model layer and create a new layer mask for the white flower, so only the flower's texture is visible. Do the same for flower_02.psd and flower_03.psd. Now place flower_04.psd and flower_05.psd as if they're growing out of the model's shoes, and merge the layers.

19 Paste bird_01.psd to bird_03.psd from the DVD into the final image. Create two layers, one set to Normal and the other to Color Burn. Use pinks and yellows to draw with a light brush over parts of the model to colourise it. Adjust the Opacity of these layers until you find the right mix – 50% and 20% should be fine.

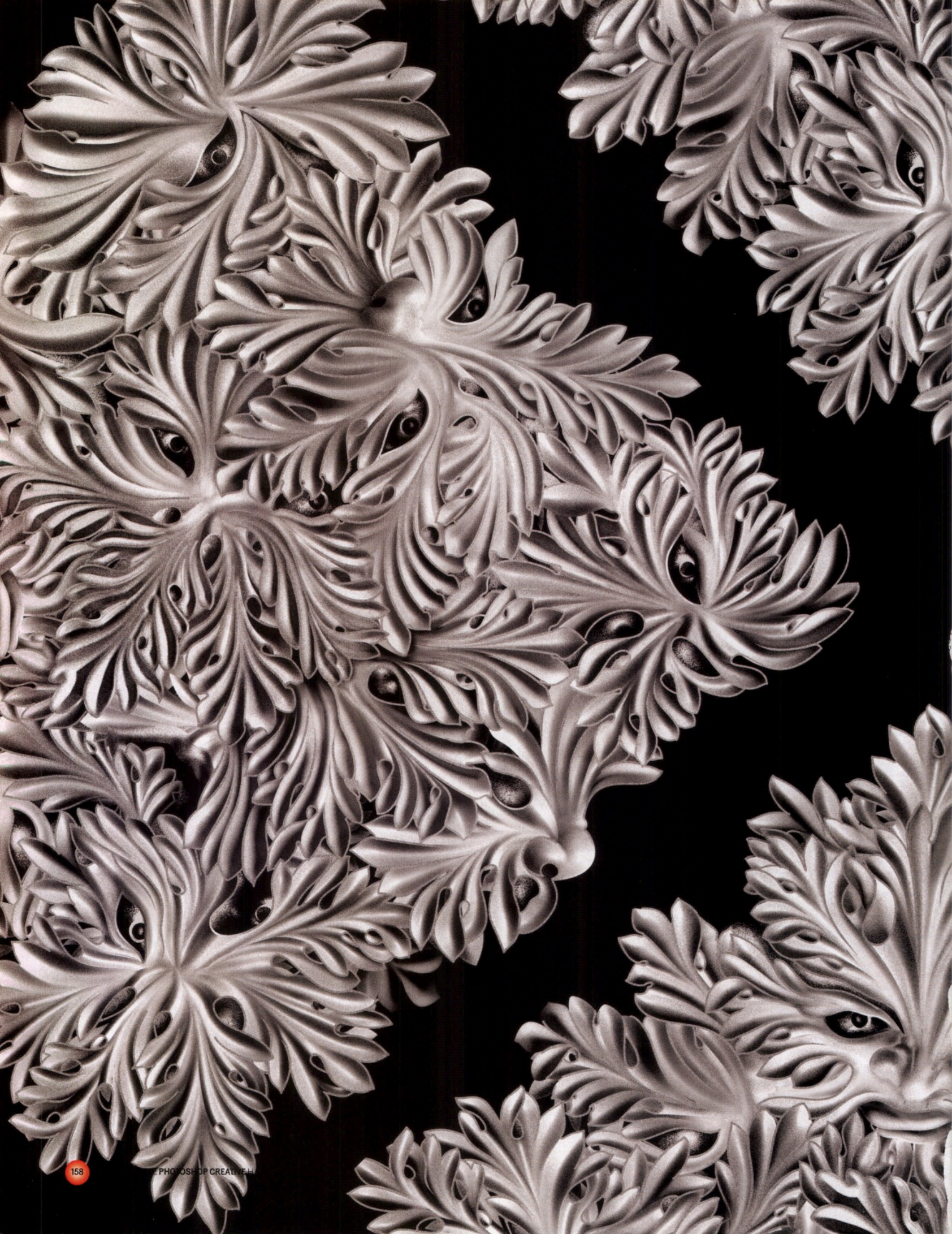
Sharpen it

As a general rule, RAW digital photos need additional sharpening for print, and the Unsharp Mask filter is the most versatile tool for this job. The Threshold setting is the key to success; at lower settings, nearly all pixels are sharpened, but at higher settings, only the ones with neighbouring pixels that are clearly different in tonal brightness (ie, edges) are affected – this often leads to better results.

20 Open a white paint from the Paint folder, and paste it over the model. Right-click (Ctrl+click) the model layer, and create a layer mask for the paint from the selection. Duplicate the layer, place it below the original in the stack and apply a Gaussian Blur of about 10 pixels. Repeat this two to three times until the model has a light covering of snow. Around the outline of the model, slightly paint into the layer masks of the snow layers with a white soft brush to fade the snow into the background, and create a smoother border.

21 Create two layers: 'glow soft' and 'glow solid'. Set the blending mode of 'glow soft' to Lighten (only pixels darker than the colour you paint with are affected). In both layers, use a soft brush (Opacity of five to 20%) of varying sizes to paint highlights across the graphic, especially around the model and birds. Now add some more paint on new layers behind and in front of each bird, the tree and on top of everything using the techniques described in step 20. You can also use a soft white brush with the Airbrush option enabled to draw additional snowflakes. Merge the paint layers in the layer stack.

22 By now you should have created a romantic winter illustration – even if your image doesn't look exactly the same as ours – and be familiar with all the techniques used to create it. At this stage, you can add small details such as a white glow, and experiment with colours and levels. There's plenty to try out, so don't stop here.



Photoshop in fashion

Creativity can come easier with good graphic software such as *Photoshop*, used here to create the Vivienne Westwood Acanthus print...

The Acanthus print originated from a Vivienne Westwood sketch, and the objective was to make it resemble carved stone. In this tutorial we'll show you how to build a portion of the full print – you can then use the same techniques to create the rest. It will take some perseverance to recreate the pattern, but the experience will bring you great confidence next time you have to tackle an intricate project such as this.

Because we're trying to achieve a hand-crafted feel, it's important to give each leaf individual attention in the final touching-up stages. We suggest you use certain tools manually in *Photoshop*, as opposed to obtaining results automatically through the use of filters. Using manual techniques is almost like using a paint brush, and this is how you'll achieve the best results. Having said that, there is no set formula on how best to use *Photoshop* – if it looks good, then that's the right way to do it. Experiment, and it will happen...

Photograph by Ugo Camera

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Fashion

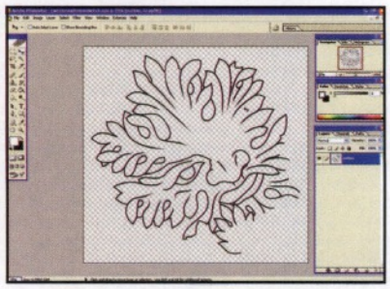
Expertise provided by Joe de Campos. Joe has been a graphic designer with Vivienne Westwood for just over six years. His work varies from ad campaigns to artwork creation to 3D visuals, and his tools of choice are *Photoshop*, *Illustrator*, *3ds max* and *Premiere*. **www.viviennewestwood.com**.

Part 1: Getting started

Before you start 'painting', prepare your canvas...

1 It's important to get clear lines in your drawing, because they'll be the basis of the whole piece. The best way to achieve this is to create outlines using *Illustrator*. Open your scanned drawing, and lock the layer. Start drawing outlines of your sketch using the Pen Tool on another layer. See sectionoutline.pdf on the DVD for an example.

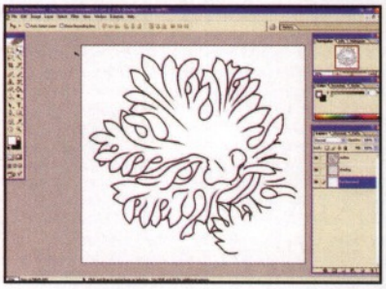
2 To get a better finish on some of the lines, use a tapered round brush from the Brushes palette. You might have to play with the settings to get lines of the same size as the rest of your artwork.



3 After you've finished tracing the whole image, discard the sketch layer. Save the image as an EPS, so you can open it later in *Photoshop* at the resolution of your choice. The above image shows the outlines opened in *Photoshop*.

Part 2: Working on the leaves

Spend some time playing with the light and shadows...



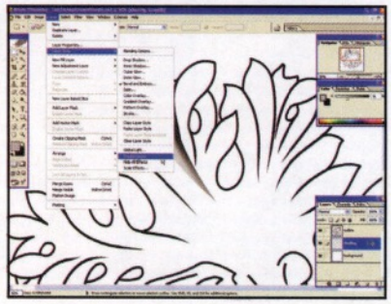
1 Rename your first layer as an outline, and create two more layers under it. Name one of them 'shading' and the other 'background'. Paint your background layer white. Once again, make sure your outline layer is the top one.

2 You need to draw the leaves one by one to achieve the effect needed. Using the Pen Tool, trace the outline of one of the leaves. Try to do it this way so the leaf will look like it's coming out of the centre of the face.

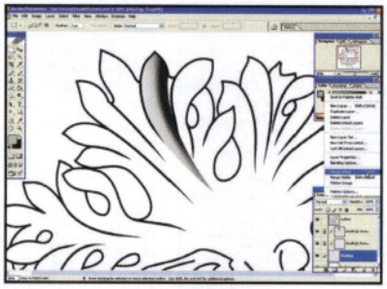
3 Adjust the path using the Convert Point Tool. Once you're happy with your path, make a selection by right-clicking (Ctrl+clicking).

4 Choose a stone grey colour, and fill your selection. Make sure that all this is done on the shading layer. It's a bit time-consuming to do each leaf one by one, but the effect you get in the end is worth the effort.

5 There are a few ways in which you could tackle the next step. You could use an Eyecandy bevel plug-in, or shade manually using the Burn Tool, but we're going to use *Photoshop's* Bevel layer style. Try to give the leaf a 3D look.

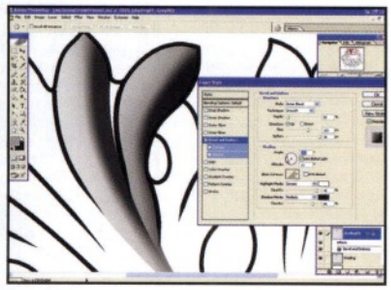


6 You need to flatten the layer style so you can use the Burn and Dodge tools later on. One way of doing this is to go to the Layer > Layer Style and choose Create Layer – this separates the effects you've applied on to two layers.

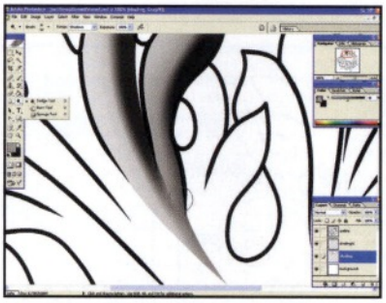


7 Now link the shading layer with the two that were just created, and go to Layer > Merge Linked. This should give you one layer with the effect applied.

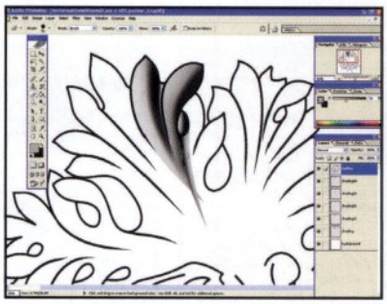
8 Okay, that's one leaf done. Now repeat the same process on the adjoining leaf. Once again, use the Pen Tool to draw the contour of the shape of the leaf. Every leaf has to be created on a separate layer, so you can manipulate them individually later on.



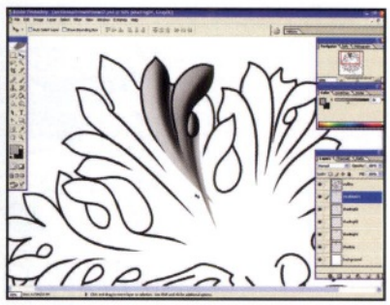
9 Once again, we're going to apply the Bevel style to the leaf. Adjust the Angle in the shading section, bearing in mind the positioning of the leaf – we've chosen a setting of 152 degrees. Don't forget to create the effect layers and merge them as before.



10 By using the Dodge Tool you can lighten the shadow of the first leaf so it blends nicely with the neighbouring ones. This is why it's important to keep separate layers for each leaf.



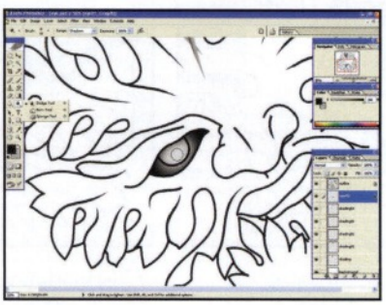
11 Some of the lines we created earlier might not be needed after you've done the shading, so you can start tidying up by erasing them. To fill in the little gaps in between the leaves you'll have to use the same process.



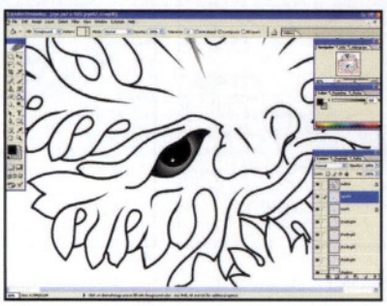
12 Where the leaves curl, remember that the light is inverted. We're trying to achieve a realistic-looking effect, so keep the light angles consistent with the source of light. Now let's take a break from the leaves to work on the eye.

Part 3: Creating the eye

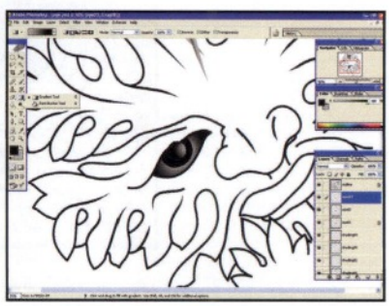
Attention to detail is the key factor here...



1 The eye is quite simple. Create a new layer, rename it and fill the whole outline of the eye with the same stone grey colour you've used for the leaves. Highlight the centre of the eye with the Dodge Tool so you get a nice spherical effect.



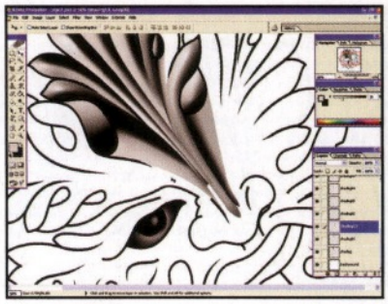
2 Select the pupil area, and fill it in with black. You should use a different layer for the pupil, so that later on, if you need to do more highlighting on the eyeball, it won't affect the pupil, which should be kept black.



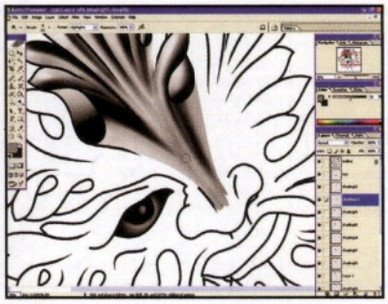
3 Make a circle selection in the centre of the pupil, and use a Radial gradient to create the effect of a sphere. Erase any part of the circle that's outside the eye contour, and play around until you get the effect you like. That's enough work on the eye for now.

Part 4: Blending the centre and performing a nose job

Experiment, and use your imagination to create the right effects in the nose and forehead areas...

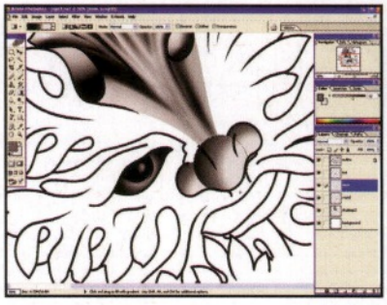


1 At this stage we've completed a few more leaves and, as you can see, the shadows near the centre of the face aren't very convincing. It's important that all leaves are in their own layers.



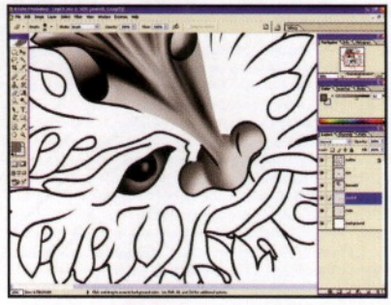
2 By going to each layer and using the Dodge Tool you can smooth out the darker edges of a leaf to match its neighbours. Once you're satisfied with the results, choose Layer > Merge Linked to merge all the leaf layers. That's one set done.

3 On a new layer called 'nose', draw a circle to fit the nostril, and use a Radial gradient to add a nice light effect. Do the same for the other nostril, and use a light grey for the highlight of the gradient – don't use pure white.

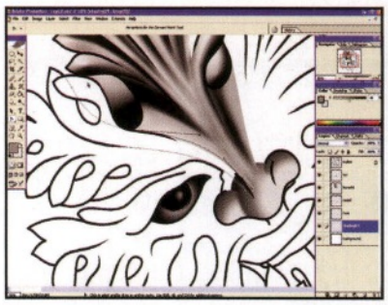


4 For the centre of the nose, use the same procedure but with a bigger circle. It's really up to you how much highlight you want to give to this area of the design.

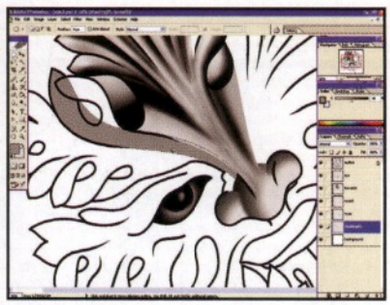
5 Make the centre of the nose circle layer the bottom layer below the two nostrils. This makes it easy for you to erase the portions of the nostrils that overlap the centre of the nose – use a slightly feathered Eraser Tool for this. When you're happy with the result, merge the centre of the nose layer and the nostril layers.



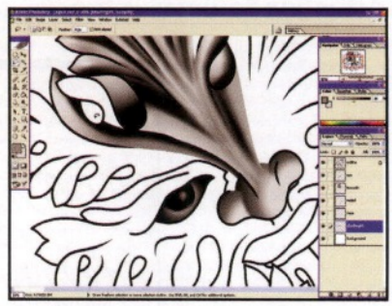
6 If you haven't done so already, place the layer that contains the set of leaves above the nose layer. Again using a feathered Eraser Tool, get rid of the base of the leaves so that it blends well with the nose.



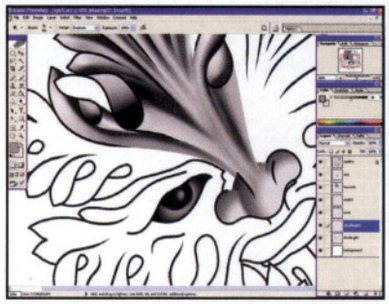
7 There are some leaves that could give you unwanted shadow artifacts due to their shape. In these cases, when you're using the Pen Tool to draw the leaf, try to follow a smoother drawing curve, even if it overlaps the original outline.



8 Fill in the shape of the leaf with the grey colour; apply the Bevel layer style and so on. Only after you've finished this can you get rid of the excessive, overlapping parts of the leaves.



9 It's starting to look good now. At this moment you could start filling in the other leaves, merging them into sets and blending them into their surroundings.



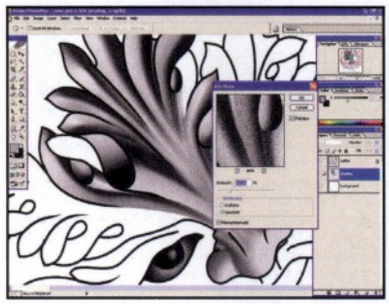
10 Throughout this project you have to visualise how the folds occur on the leaves. You may decide to exaggerate these, as we've done on the little fold above.

11 You'll find unfilled spaces from time to time, such as on the nose section. In these cases you can create a layer at the bottom, and fill it with the grey colour. You can then play with the brightness slider until you get the best match with the upper layers.

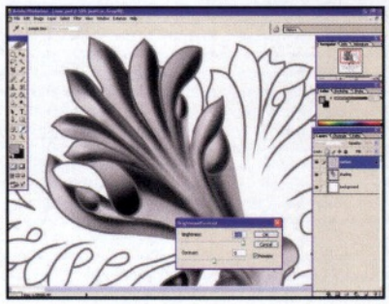
12 On all these fill-ins use your imagination, and whatever tools you think most appropriate to increase the illusion of a 3D effect. Remember, you're trying to create the effect of carved stone.

Part 5: Finishing off

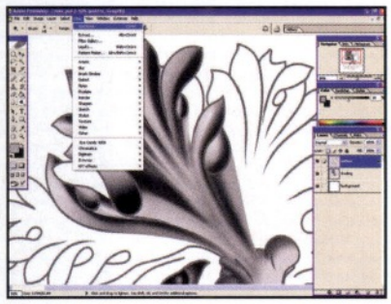
By this stage, you'll begin to see the hard work paying off...



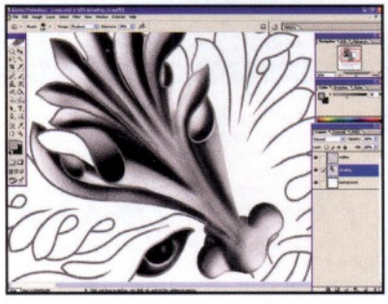
1 Once you've done all the leaves and they're nicely blended, merge them into a single layer, so you're left with just three layers: outline, shading and background. The whole thing looks a bit too smooth, so use the Add Noise filter to apply some noise to the shading layer.



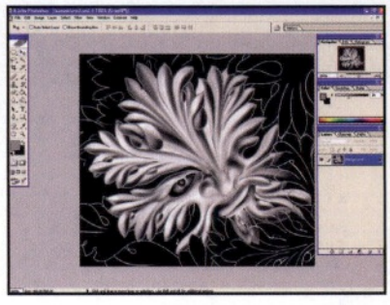
2 Go to the outlines layer now, and, using the Brightness slider, lighten the black outlines to a lighter tone of grey, to enhance the edges of the 'stone'.



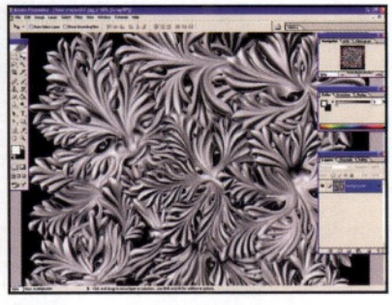
3 Apply the Add Noise filter to the outlines. If you've progressed this far, the results of your hard work will now start to appear.



4 The finishing touches can be applied to both layers to bring out interesting sections of the texture. By using the Burn Tool after you've applied the Add Noise filter, you'll get a better texture effect – a nicer grain. Experimentation is the key.



5 To get a more dramatic lighting effect, change your background to black. This stone face is only one part of the whole artwork, but it's the most complex to create. You probably have enough for now, but the whole piece consists of ten stone faces similar to the one we've just finished.



6 This is what the whole artwork should look like. Adjust the brightness of the individual parts so they look similar. The artwork is tileable, so by placing duplicates next to each other you'll be able to build up a piece as big as you want. ■

n by Chi-Yun Chen

Illustration by Chi-Yun Chen

Abstract type

Substance's **Oscar Goldman** uses original photography and a little Photoshop layering to create hand-crafted, traditional typography that's strikingly fused with computer-based portraits

When asked to produce a tutorial based on the techniques I've developed while working at Substance, my immediate response was to develop a tutorial that had a strong bias towards 'organic design'. After all, too many illustrators these days produce glossy fashion-orientated images.

At Substance, we believe that the computer is slave to its master, and therefore produce our images by hand – often incorporating traditional photography. Throughout this tutorial, we want you to consider firstly how you produce *Photoshop* images, and secondly how you interact with your computer. Hopefully, as a result, you'll find ways to challenge the orthodox, and fuse human creativity with the computer to produce something unique.

All of our images start with traditional computer-set typography. These simple black and white prints are then processed by hand and augmented by the machine. This distinctive fusion of 35mm photography and distressed texts works well once in *Photoshop*.

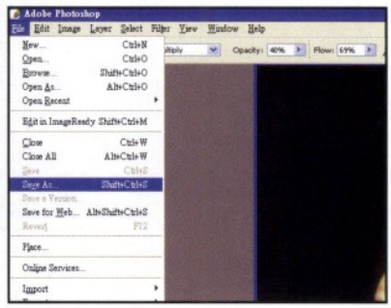
The layering of images is critical to the construction of our illustrations. *Photoshop* features a bevy of image adjustments to distort, warp or refine your graphics. Its a satisfying way to distort and distress what would otherwise be very simple textual elements. So try to think outside of your computer screen and you'll produce independent, hand-crafted organic design. Set aside your preconceptions, and you'll soon be creating your own images of substance. ■

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Abstract Type

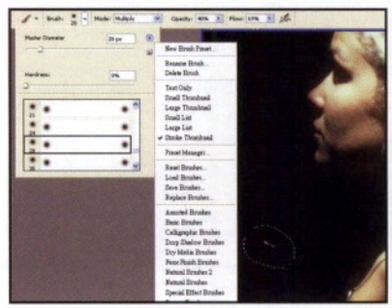
Adding type effects to an image

1 Select an image from your archive of photographic prints, or a transparency. We've chosen an original A4 flat print taken from a family holiday during a Turkish Summer. Consider the image's depth of tone, contrast, colour values and focal point.

2 Once you're happy with your chosen image, scan it at a high resolution, and import the result into *Photoshop*. If you have time at this stage, it's a good idea to scan a small selection of two or three images before you continue the process; this ensures that you'll have more than one image to work with at a later stage.



3 Once you've successfully scanned your portrait images, make sure you save them correctly before getting started. Go to File > Save As (Ctrl/Command+Shift+S). Set the file resolution to 300dpi, the mode to CMYK and the format to A4 (Portrait).



4 Now you can remove any blemishes. Highlight any marks and surrounding areas with the Lasso tool, and select a suitable brush. When applying strokes to a damaged area, remember to incorporate a dark tone, using the Eyedropper Tool to sample existing colours from the image.

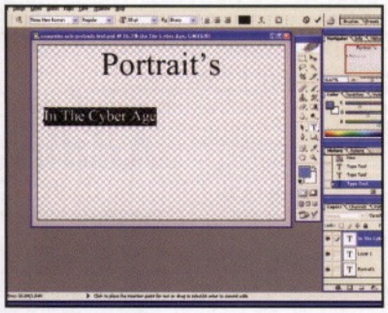
5 Slight colour discrepancies are bound to occur during scanning. To rectify these, go to Image > Adjustments > Color Balance (Ctrl/Command+B), and subtly alter the settings until you're happy. Remember to save your file.

Adding type effects to an image, continued...

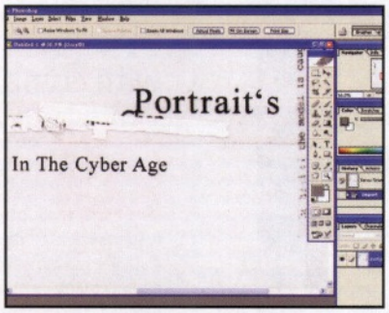
Keep it sharp

Text generally 'sits up' better on an image if its tonal values fall between 0–35% of black if black or dark coloured text, or 70–100% of black if a white or light-coloured text is needed. The basic colour value of your photograph is instrumental to the legibility of the final composition, so make an informed choice, or the contrast between text and image won't be sharp, and the results will be less effective.

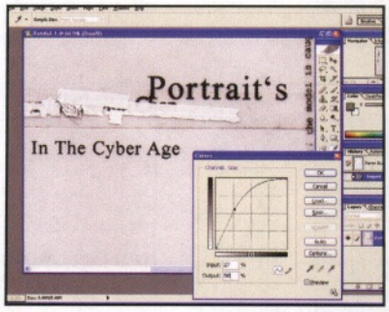
6 The Curves dialog (Image > Adjustments > Curves) can help refine your image. Selecting the eyedropper icons will enable you to plot black, grey or white points to alter the balance of your portrait further. Keep clicking the Preview option to refer to your original image. Experimentation, and patience, are recommended at this stage.



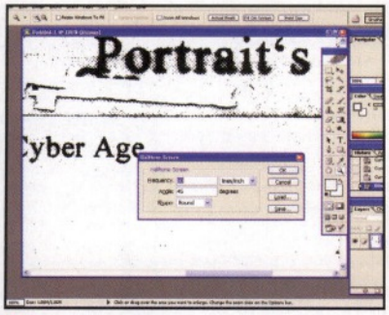
7 Now set your typographic headlines in black and white using the Type tools, and print the text on to non-coated white A4 paper. Simple, uncomplicated typographic treatments will work best, especially if they're kept large – ideally, above 24pt. Make scratches with a scalpel to make key elements more 'edgy'.



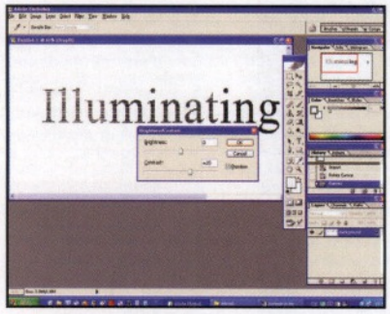
8 Now print out multiple A4 copies of each piece of text. Trial and error is key here, as a spontaneous attitude will keep your typography fresh and vigorous. Here, a mixture of Tippex and Scotch Tape was applied to distort the text. Apply your treatments freehand, as overworked renderings look clumsy and unprofessional.



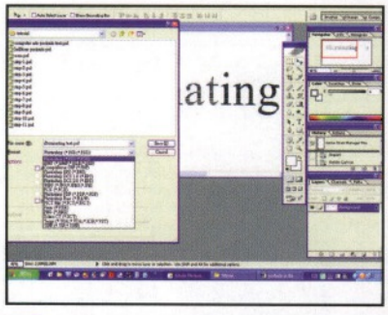
9 Scan your typography back into *Photoshop* and play around with the contrast using filters. Go to Image > Adjustment > Curves, and play around with the settings until you're happy. Experiment with the Input and Output values to distress the image even further.



10 To make a combination of contrasting typographic elements, convert each scanned image to create a unique palette of typographic forms. Go to Image > Mode > Bitmap. The dialog that appears will enable you alter the graphic nature of each element. Alter the Resolution and Method, and then select Halftone Screens.

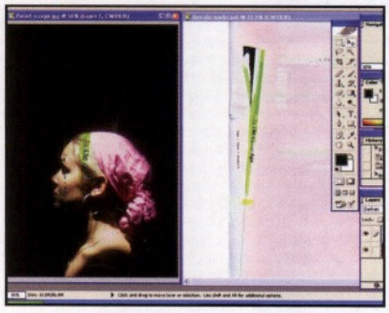


11 It's wise to create a variety of typographic layouts, and scan them independently, so that you have access to complementary images during the construction process. Have fun utilising the many halftone screen options. Here, a line screened with halftone was employed before the Brightness/ Contrast function was used to sharpen the image.



12 Once you've accumulated a variety of images, save them within a single project folder. Choose the *Photoshop* PSD file format, so that you can edit the images further. Once they're saved, print out the files as black and white laser prints. Viewing these materials will help during illustration.

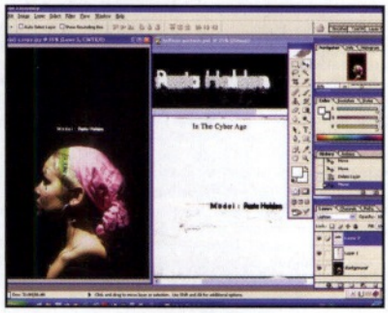
13 It's useful to incorporate one or more non-typographic elements into your graphic palette to add texture to your illustration. Here, a combination of brown packing tape, Tippex, Scotch Tape and day-glo markers was applied, and scanned in as background image material.



14 Open your portrait image and its background textures. To layer your image, first select the background texture, and drag it on to the portrait image using the Move Tool. Now select Layer > New > Layer. In the New Layer dialog change the Mode to Darken, and move your floating layer (background texture) to a position of your choice.

15 Now select any typographic element from your scans, and, using the Rectangular Marquee Tool, open a new file by choosing File > New (Ctrl/Command+N). Use the Move Tool to drag the typographic element to the new file, and repeat for any other elements you wish to move.

16 Interesting effects can be achieved by using Greyscale or Bitmap images only, as they have a greater contrast tonally, and the results are more graphic than for CMYK or RGB files. To balance the darker tones, invert a variety of typographic elements using Image > Adjustment > Invert.

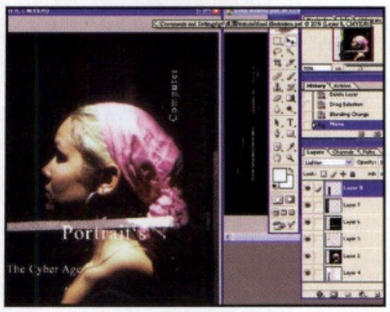


17 To build up your final composition, you'll need to start adding additional elements, such as scanned text or other textures. To place an inverted image from a newly created file on to your portrait image, drag your selected inverted image using the Move Tool on to the portrait, and set the layer's blending mode to Lighten.

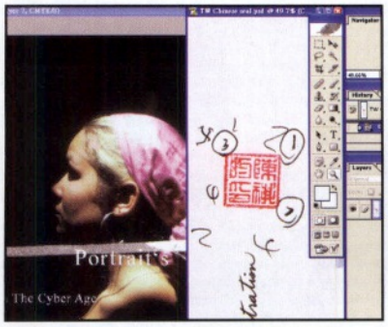
Take control

Consider your requirements from the start, and use your computer as a tool – don't let your programs define your images for you. *Photoshop* filters are great for enhancements, as they aid the illustration process, but they should not define it. There are far too many illustrators generating images driven by *Photoshop* effects, so consider your options carefully. It's the human component, fused with the computer, that will lead to a distinctively rendered illustration.

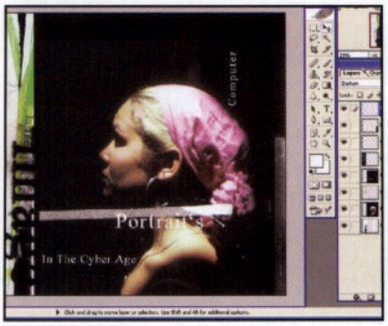
18 It's important to include numerous typographic elements to aid the illustration process. *Photoshop* layers are flexible and independent, so you can easily move them to suit your compositional needs.



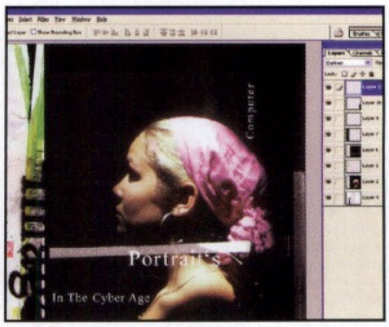
19 You can now start to refine your illustration. Here, we were dissatisfied with our production credits, and thought that the image lacked a little in terms of colour, so we decided to add new elements. We applied the new credits on a new layer, and altered them by choosing Adjustments > Hue/Saturation (Ctrl/Command+U).



20 As a final touch, we scanned in a Chinese seal as a CMYK file, and cleaned it up. We then distressed it using filters. We repeated steps 15-17 to add this final layer to the composition.



21 It's important to supply your illustration with the appropriate resolution, format and file size (if it's intended for publication). Should your work be a single-page illustration such as this, remember to leave a 3mm bleed around the perimeter of your image to allow for trimming requirements.



22 Once you're finished, it's always advisable to print out your illustration at 200% so that you can check for any unwanted blemishes. Coloured inkjet prints are preferable to black and white, and remember to pay attention to print separations. If you have access to match proofs, so much the better.

Vector drawing techniques

Kai and Sunny, the design duo whose work appeared on the cover of the Booker Prize-shortlisted Cloud Atlas, reveal the Illustrator techniques they used to create this stylish and eye-catching image

The main aim of this tutorial is to refresh some of your most elementary *Illustrator* techniques by recreating the book cover we produced for *Cloud Atlas*. This back-to-basics approach will require you to learn how best to scan your images into *Photoshop*, and place your scanned sketches into *Illustrator* so that you can clean up your scribbled sketches and transform them into perfect vector drawings.

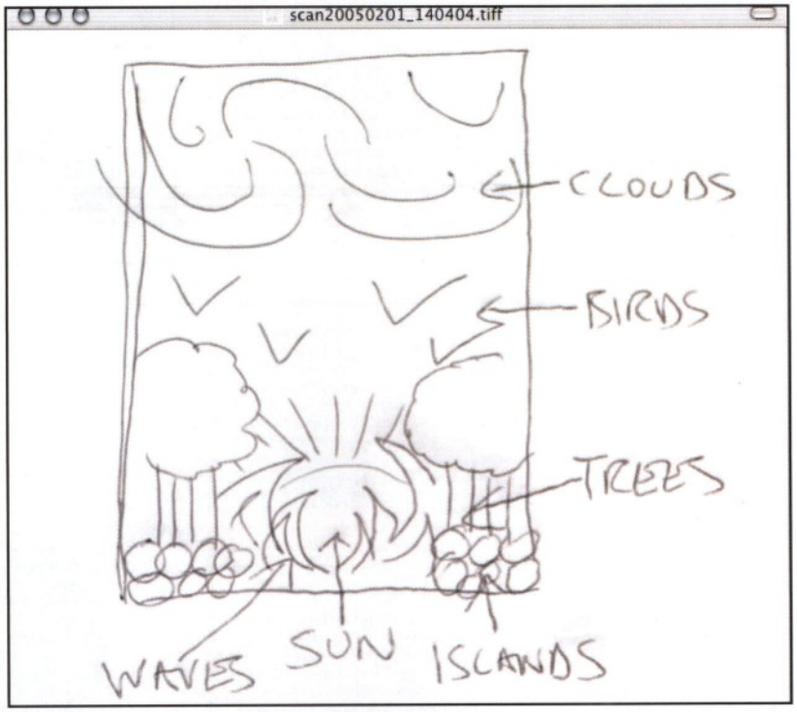
You'll also be encouraged to grapple with a range of other *Illustrator* drawing tools to create original and eye-catching elements to add to your final illustration. Having refreshed your Pen techniques, we'll take you through the delights of drawing with the aid of the helpful Snap-to-Grid function, setting up the grid to your desired settings, before running you through simple but striking ways to draw effective vector-based sun and grass effects.

You'll separate your vector drawings across different layers, selecting and focusing on individual elements so they can be rearranged and coloured with ease. Once layered, the illustration will really start to take shape – after all, it's essential that book covers grab your attention right away.

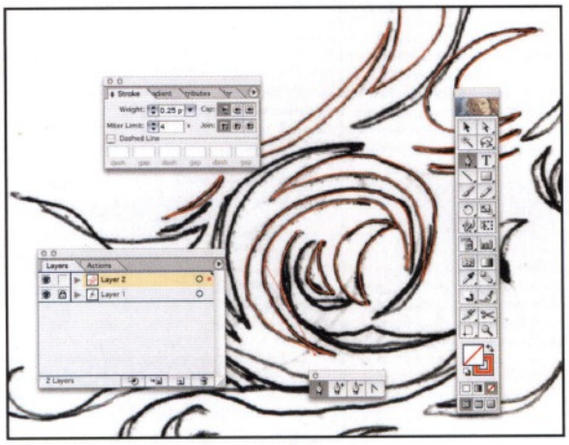
We've simplified the job by giving you advice on how to select Pantone colours best suited to your illustration, control your colours in *Illustrator*, select a fill and outline colour for your vector drawings, discover the best effects using two or more colours with the Gradient Tool, and how to combine tones to create astonishing moods throughout your images. So let's get started... ■

Files on disc
CCPH\DiscContent\Tutorials\Chapter3\Tutorials\Book Cover Design

Drawing in Illustrator



1 Before you put finger to keyboard, create a basic rough sketch, like this one. Your initial drawing should outline the main elements you wish to appear in your composition – trees and clouds, for example. Deciding on the positioning of each element at this stage will save you masses of time spent fiddling with options in *Illustrator* later on.



2 You can now start to refine your drawings. Once you're happy with the basic outlines, scan your image into *Photoshop*. Import the resulting image into an *Illustrator* file and, using the Pen Tool, carefully trace the outlines of your image section by section. Double-click on the stroke swatch and choose a bright colour using the Color Picker, and enter a stroke weight of 0.25pt to draw smooth curves over the rough lines.

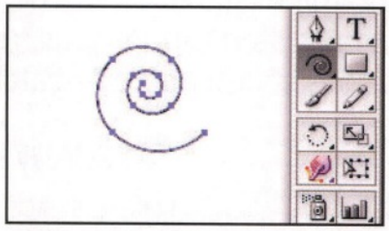
Illustration and tutorial by Kai and Sunny www.kaiandsunny.com

Drawing in Illustrator, continued...

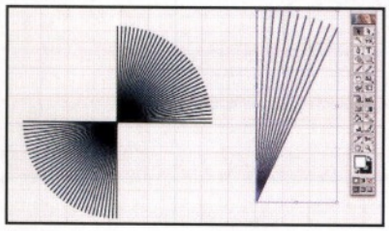
Back to the drawing board

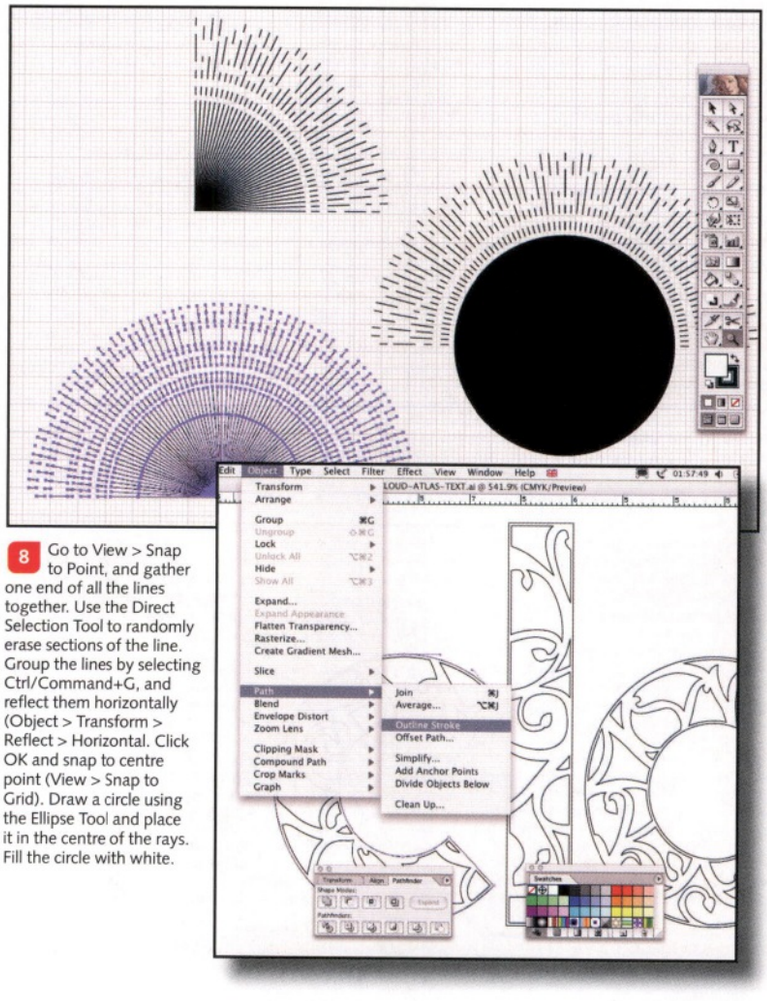
It can be tricky to maintain natural shapes when using hand-drawn sketches to create vector shapes. When using the Pen Tool, try to draw each shape as quickly as you can, so that each line flows easily. You can always go back over the shape with the Direct Selection Tool, to pull together and tighten any stray points.

3 Once you've used the technique outlined in step 2 to refine each element in your sketch – the birds, clouds and trees – you can start to create the waves. Select the Spiral Tool, and click and drag on the art board – a random-sized spiral will appear. For more control, hold down Shift +Alt/Option while you click and drag.

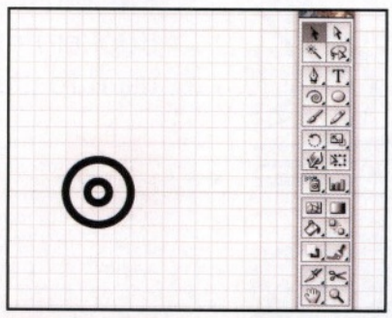


4 Now for the sun. Go to View > Snap to Grid, then View > Show Grid. Draw a horizontal line using the Pen Tool, and add points randomly along the line using the Add Anchor Point Tool. Rotate and Copy at 2.5 degrees by choosing Object > Transform > Rotate and entering 2.5 degrees. Hit Copy, then Paste and repeat until a 90-degree space has been filled.

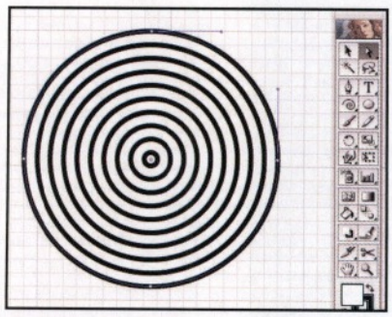




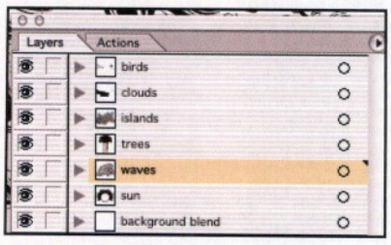
8 Go to View > Snap to Point, and gather one end of all the lines together. Use the Direct Selection Tool to randomly erase sections of the line. Group the lines by selecting Ctrl/Command+G, and reflect them horizontally (Object > Transform > Reflect > Horizontal. Click OK and snap to centre point (View > Snap to Grid). Draw a circle using the Ellipse Tool and place it in the centre of the rays. Fill the circle with white.



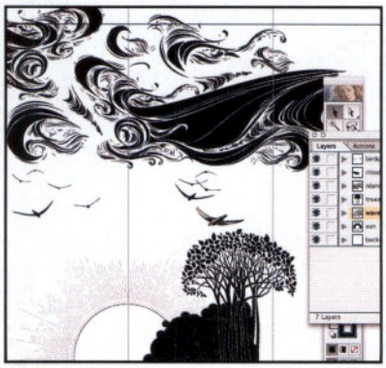
6 Now create the islands under the trees. Set the grid first by going to Preferences > Guides and Grids, and set the grid to ten units per centimetre. Hold down Shift and draw a circle with a 2mm diameter using the Ellipse tool. Make the next circle 4mm in diameter and repeat this process, always making the next circle 2mm bigger than the last.



7 Fill the outer circle with white. Finally, send the circle to the back by choosing Object > Arrange > Send to Back. Repeat these steps with more or less circles to create different-sized islands.

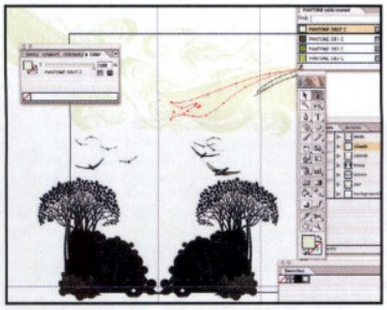


8 You can now start dealing with the layers. Open the Layer window and create seven new layers. Starting from the bottom layer, place each element on a layer, and save them with the following file names: Bottom layer – background blend, Layer 2 – sun, Layer 3 – waves, Layer 4 – trees, Layer 5 – islands, Layer 6 – clouds and top Layer 7 – birds.



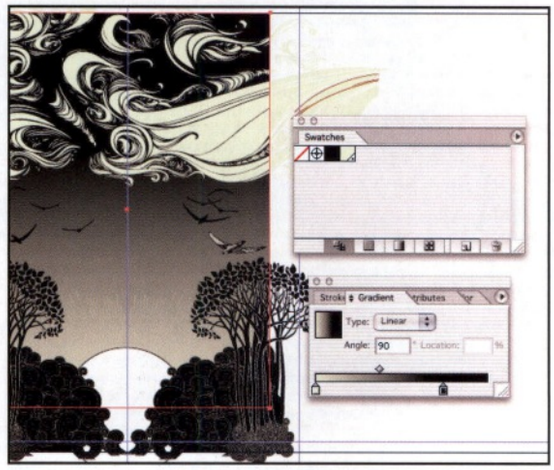
9 Now place all the elements you've created in position according to your initial sketch, working in the same document with the elements placed in different layers. Once in place, lock the clouds, birds and sun layers by clicking on the padlock on each layer.

10 You can now reflect the image so that it creates a mirror image on the opposite side. Select the trees, waves and islands in their layers, and go to Object > Transform Object > Transform > Reflect. Select Vertically, then move into position.

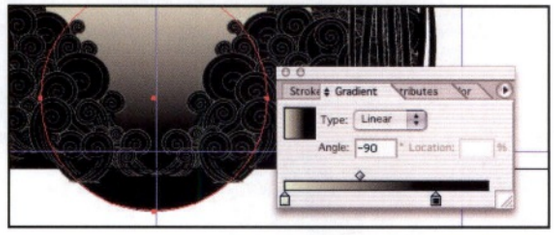


11 Go to Window > Swatch Libraries > Pantone Solid Coated. Open your swatch window and add Pantones 5743 and 5807 by dragging them to the window. Select the trees, click Fill and click on Pantone 5743. Now add the following Pantones, as indicated: Sun Rays (outline 5807), Waves (fill 5743; outline 5807), Islands (fill back circle 5743, outline all 5807), Clouds (fill 5807), bird Texture (fill 5743), Bird shapes (fill 5807).

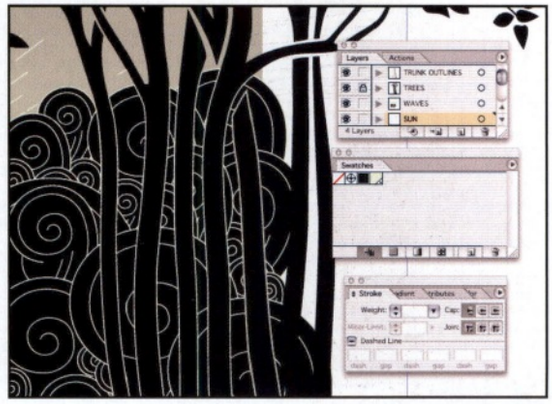
12 Select the background blend layer, and select Gradient. Add beige (Pantone 5807) to one end of the spectrum and dark green (Pantone 5743) to the other. In the Gradient window, you'll see arrows filled with colour. Drag and drop the Pantone colours from the Swatch window into these arrows. Change the Gradient Angle to 90 degrees and, in the Gradient window, move the arrow between the two colours to make the blend change start below the swirling clouds.



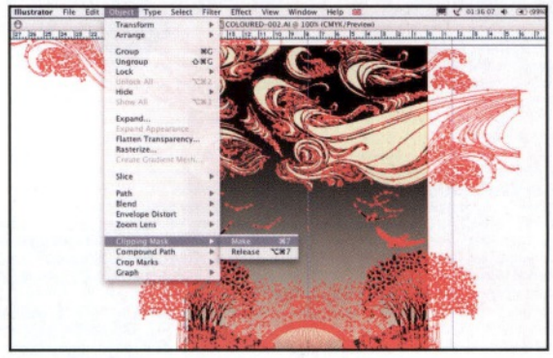
13 Select the sun, and fill with the same gradient as the background, but this time change the angle to -90 degrees, so that the beige merges down into the dark green.



14 To make the tree trunks visible over the waves, outline them in beige (Pantone 5807). To do this, create a new layer above the trees layer, then copy and paste the trees into it. Cut the trees using the Scissors Tool where they meet the waves' highest point. Delete the treetops, and join up the points of all the tree trunks before outlining them with beige. Place this layer between the trees and waves.



15 Finally, flatten the layers. In the Layers palette, you'll see a circle with an arrow. Right-click (Ctrl+click) on this, select Flatten Layers and then group all the elements using Ctrl/Command+G. Now clean up all the edges by drawing a rectangle over the whole image using the Rectangle Tool. Select All and then go to Object > Clipping Mask > Make.

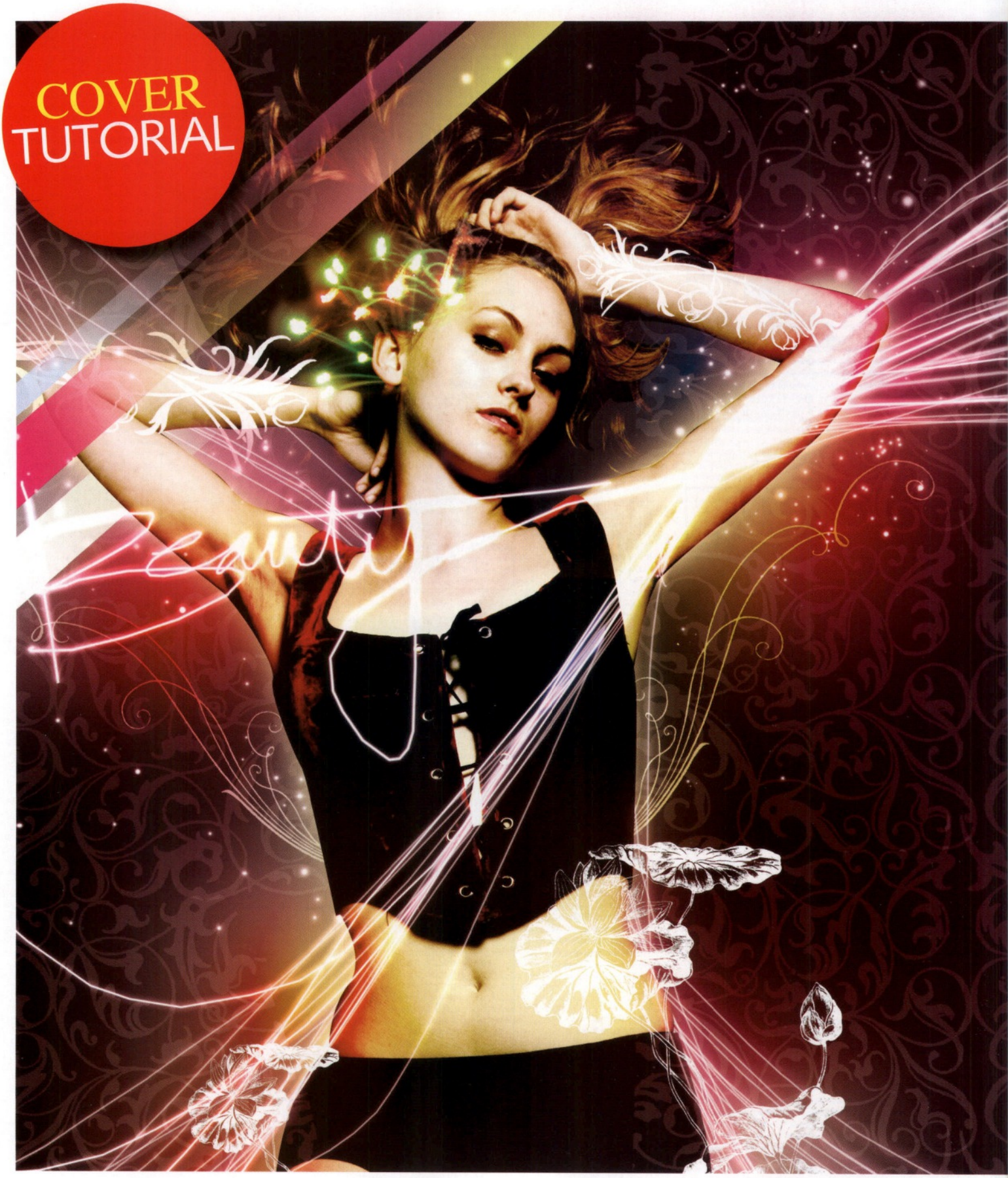


Experiment

Once you've mastered using the Pen Tool to create lines, shapes and images freehand, try drawing with the Snap to Grid function turned on. Hold down Shift and Alt/Option while drawing, and see what happens.

Change direction

If you're using the Pen Tool to draw a curve, it's easy to stop and change direction. Just double-click on your last point, and start moving again in the opposite direction. This will save you time if you're creating complicated vector illustrations.


COVER
TUTORIAL

Add another dimension

It's relatively easy to spice up your photos in Photoshop. But how about taking things further? As **Luke Whittaker** explains, key to success is to fix your colours and enhance them – that way you'll be sure to achieve eye-catching results

Okay, so you've grasped the basic *Photoshop* techniques, but you'll need more than that if you're to produce a range of original and eye-catching work. To this end, don't underestimate the power of composition, or the importance of balance.

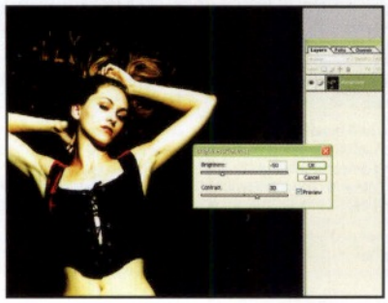
This tutorial will teach you to create stunning effects using glows, loads of dodging, and lots and lots of neon – hot pinks and lemon yellows are prominent here. You'll also learn how to utilise white in all the right places, so that white areas look less like negative space, and more like the result of added energy and light.

The finer details are very important, too. The small glowing dots used throughout this image may be small, but they add a great deal. Always pay attention to detail in anything you create – simplicity is good, but there are always details that, when added, make all the difference.

This tutorial stresses the importance of strong colour. The background of the piece we'll create contains a faint floral pattern, which is key, but very subtle. It doesn't demand your attention, or stand out on its own; rather, it serves its purpose as a background correctly. In addition, another dimension is added using flowers and scanned imagery, giving the image a truly organic feel. Keep in mind the importance of strong colours and solid composition in all your work, and you'll see instant results. ■

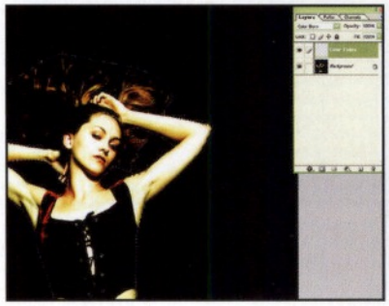
Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Add another dimension

Composing with colour

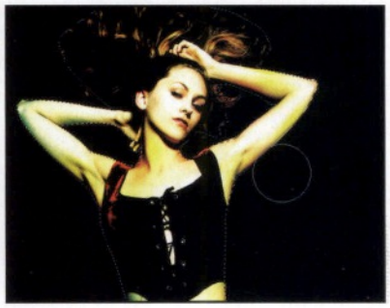


1 Open Model1.tif from the DVD. Adjust the Brightness/Contrast to -50 and +30 respectively. Now go to Filter > Sharpen > Sharpen, to ensure that the whole image appears as crisp as possible.

2 Using the Pen Tool, draw an outline around the girl's body. Don't worry about the finer details around the hair, but do make sure that you outline inside the area where her arms bend upwards. Save this path, and label it 'Outline'.



3 Create a new layer named 'Colour Fades', and set its blending mode to Color Burn. Select the Path you made in step 2, and click the Load path as a selection button at the foot of the Paths palette.



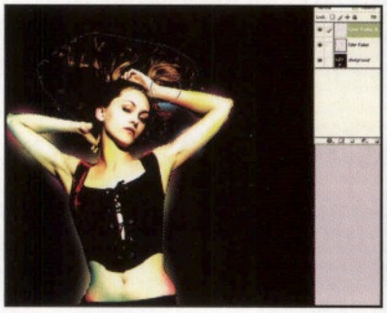
4 Now select a default round-tipped brush with soft edges, and make the size around 550 pixels. Using bright pinks, yellows, greens and blues, brush lightly on the girl's skin, using single clicks to add subtle colour to the shadows already present.

Illustration by Luke Whittaker

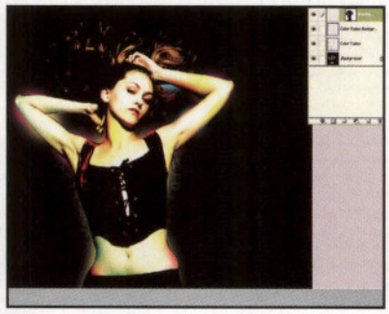
Composing with colour, continued...

Folder it

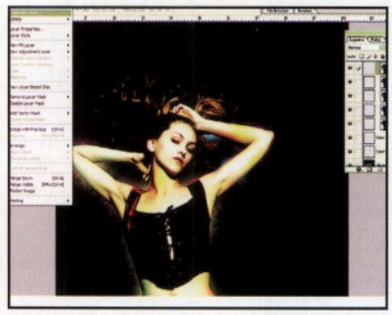
If you use the Pen Tool to outline a subject within a photo, you can add elements in front of and behind the subject to make your design/illustration appear as though it's part of the photo. Outline the subject with the Pen Tool, then choose Load path as a selection and go to Select > Inverse. Create a new layer, and draw/paste into the selected area. Your design will then go on to the background only.



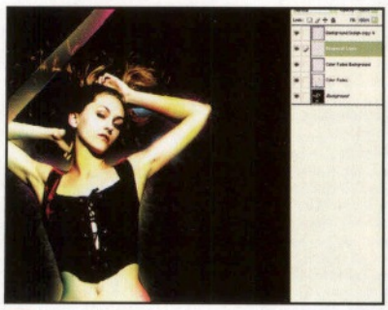
5 Create a new layer, and label it 'Colour Fades Background'. Again, click the Load path as a selection before choosing Select > Inverse. Repeat step 4, but add the soft colour to the background, mostly around the girl's body.



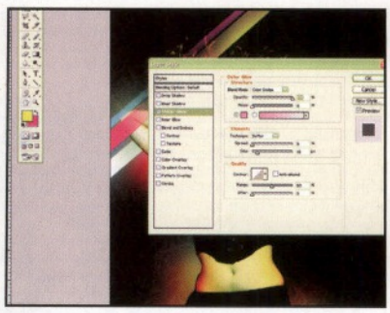
6 Open BackgroundDesign.tif from the DVD, Select All and then Copy. Go back to the main image, click Load path as a selection, choose Select > Inverse and then Edit > Paste Into. Rename this layer 'Background Design'.



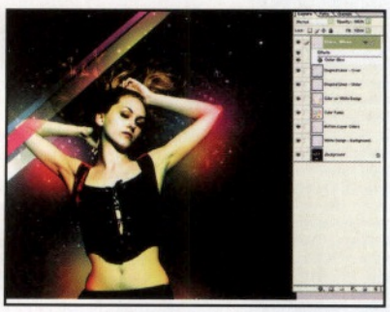
7 Duplicate and move the Background Design layer until you have enough to fill the background. Then merge all of these duplicated layers into one and again label it 'Background Design'. Finally, set the Opacity to about 15-20% – whatever looks good to you.



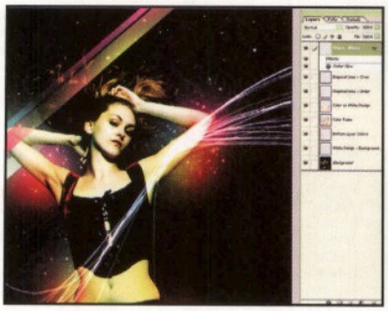
8 Create a new layer, and label it 'Diagonal Lines'. Using the Polygonal Lasso Tool, create diagonal lines going from the middle of the left edge to the middle of the top edge. Then, using the Brush Tool, paint inside using the same technique as you did on the girl, using pink and yellow.



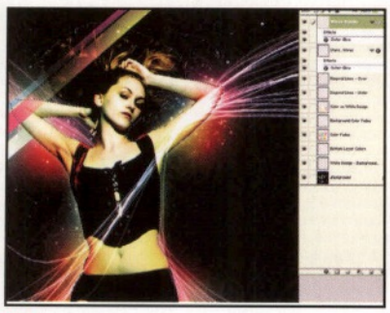
9 Create a new layer, and label it 'Stars, Wires'. Next, choose Layer > Layer Style > Outer Glow. Set the Blend Mode to Color Dodge, Opacity to 100% and Noise to 0%, and use a solid pink colour (#F19AC2). Ensure that Technique is set to Softer, Spread to 0 and Size to 18.



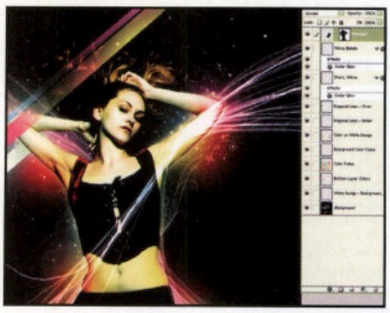
10 Choose a default soft-edged round brush of around 12 pixels, and enable the Airbrush option. Click randomly all over the background to create a galaxy of stars; try clicking and holding to utilise the Airbrush feature, and create a larger star.



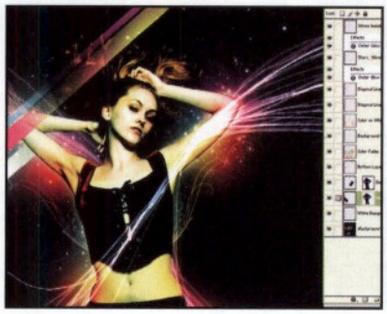
11 Using the same brush, make long strokes across the girl's body, working from the bottom-left to the top-right to create the wires/lines, and repeat this process until you have dozens of lines – you could change the size of the brush to produce a thicker wire.



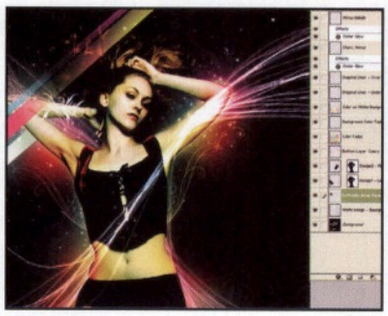
12 Create a new layer named 'Wires Behind'. Select the Outline path, click Load path as a selection and then Select > Inverse. Employ the technique used in step 11 to create the wires again, only this time you should draw them behind the subject – this adds dimension to the image.



13 Open Design.tif from the cover DVD, Select All and then Copy. Paste this image into the main image, and rotate it to fit accurately into the curve of the girl's arm. Move it over to her chest, and set the layer to Screen.



14 Duplicate this layer before choosing Edit > Transform > Flip Horizontal. Move the layer to the girl's left-hand side, so that it aligns correctly with the first and, finally, set this layer to Screen.



15 Open Flowers1.tif from the DVD, and then copy and paste it into the main image. Set the blending mode to Screen, and place it on the left-hand side, near the girl's right arm, as shown.

16 Duplicate that layer. Next, choose Edit > Transform > Flip Horizontal, and then Edit > Transform > Scale, and make the motif a little smaller, ensuring that you keep it in proportion. Place this over her other arm.

Layer styles

When you create a new layer, you can immediately set its style. Take Outer Glow, for example – everything done in that Layer will take on the Outer Glow settings you specify. When you're working on a dark or black background, setting the blending mode in the Layer Style dialog to Color Dodge will provide you with a vibrant, neon glow – this is the style used to add the glow effects to the stars and wires in this tutorial.

17 Open Fireworks.tif from the cover DVD, and Copy and Paste it into the main image. Set the blending mode to Lighten, the Brightness to -30 and the Contrast to +30. Position the fireworks near the girl's ear.

18 Now open Flowers2.tif, and again, copy and paste into the main image. Set the blending mode to Screen. Move these flowers to the bottom-middle area near the girl's hip, so that the stems follow the curve of her body.

19 Duplicate this Layer. Choose Edit > Transform > Flip Horizontal and then Edit > Transform > Scale, and make the new layer about one-third the size of the first. To balance the composition, place this on the left-hand side, next to the girl's other hip.

20 Go back to the Stars, Wires layer, right-click (Ctrl+click) on it and select Copy Layer Style. Create a new layer named 'Beauty'. Right-click this new Layer and choose Paste Layer Style. Now, using the default soft-edges brush tool at 10 pixels, write the word 'Beauty'.

21 On the Background layer – the original photo – use the Burn Tool on the Shadows at 100% Exposure, and go over the girl's face once with a size 100 soft-edged brush – this adds great shadow and definition to her face.

22 Finally, flatten the image so that you have just one layer, and go to Image > Adjustments > Color Balance. Set Cyan to -50 to remove the hot colours, and give the image a crisper feel. You can now adjust any of the other colours, until you find your desired hues.

DELI

Pixel perfect

By creating on-screen graphics in pixel form, you can retain full control over your final image. **Denise Wilton** explains the basics of pixel art, and lays the foundations for a pixel-based city…

Pixel illustrations have seized our collective imaginations since Space Invaders landed way back in 1978. And while games and on-screen environments have become more sophisticated, our passion for old-style 'blocky' pixel graphics hasn't diminished. Moving from screen to print, recent trends have seen a variety of books published about pixel artists, and even fashion designer Paul Smith has jumped on the bandwagon, working with renowned illustrators Eboy to create a range of clothes and accessories.

A pixel is the smallest element of an image displayable on your computer screen; literally 'pix' (meaning picture) and 'el' (an abbreviation of element). To create a pixel illustration is to fashion an image from the building blocks of digital imagery.

As more designers turn their attention to the web, more people are recognising the benefits of creating images in a pure pixel form. Unlike vector-based images, pixel graphics are created at the same size and resolution they're seen on-screen. If a tiny envelope is needed to sit next to a 'contact' button, creating it at actual size, pixel by pixel, means it'll remain pin-sharp.

There are many styles of pixel art, from isometric landscapes such as the one we'll create here, to the more heavily textured environments of handheld gaming apps. Isometric landscapes are the best place to start learning, as the rules are easy to pick up, and can be applied to other styles, too.

This tutorial will walk you through the basic principles, and then explain how to create the block of flats seen in the left of this image in *Photoshop*. ■

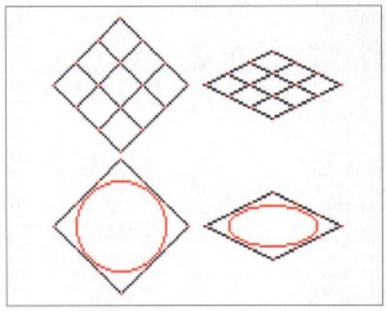
Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Pixel Perfect

Illustration by Denise Wilton www.styledeficit.com

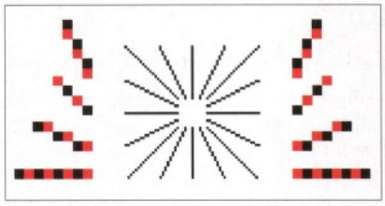
Creating pixel art

Anti-aliasing

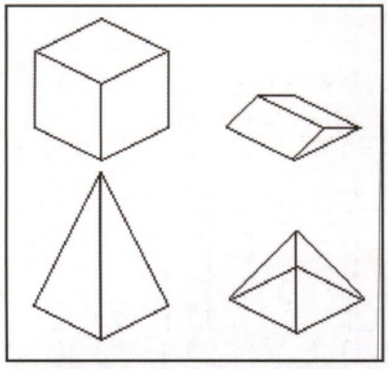
As computers become more powerful, and the quality of on-screen displays improve, we're able to create smooth lines and graduated tints in much more sophisticated ways. Anti-aliased lines are smooth, with no hard, defined pixel edges. If you create a circular selection, and keep the Anti-aliasing option on, you'll find the edges of your circle when you 'stroke' it are very smooth, or slightly blurred. The computer will calculate a tone between the one you're using and the background colour to create a softer edge. This is useful for many things, but it's not the correct effect for pixel art. For this reason, you should switch Anti-aliasing off for selections and fills.



1 Creating an isometric pixel scene means there's no vanishing point; a building 50 pixels high will remain 50 pixels high, even if it's moved forward. This image shows a grid from the top, and the same grid in isometric view. Each square is 11 pixels wide, but you'll see that the isometric view is the same width, but 50% of the height of the top-down view. You can also see how a circle would work within the same isometric grid.

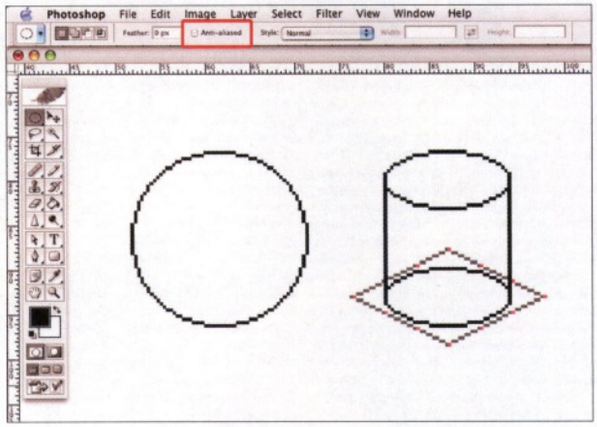


2 The example above shows the 'perfect' isometric pixel lines, drawn with a one-pixel pencil. With pixel art, this is as smooth as it gets. The enlarged views to the left and right show the individual pixels more clearly. It's possible, and often necessary, to use lines that break this rule, but for basic shapes and structures these lines are the safest bet.

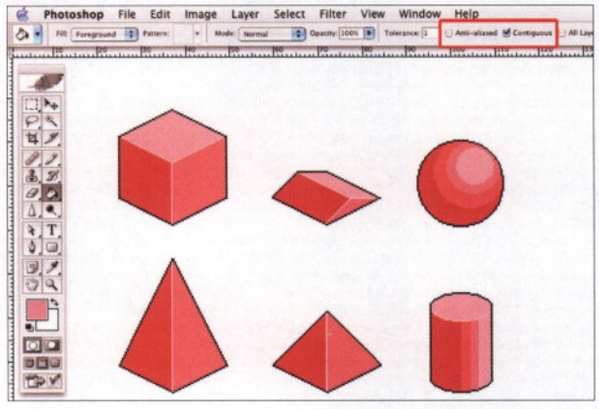


3 Using these 'perfect' pixel lines, it's easy to create basic isometric shapes. These shapes will form the basis of the city featured in this tutorial. Notice the edges flat to the ground all use the same repeated style of line – two pixels long and one pixel deep.

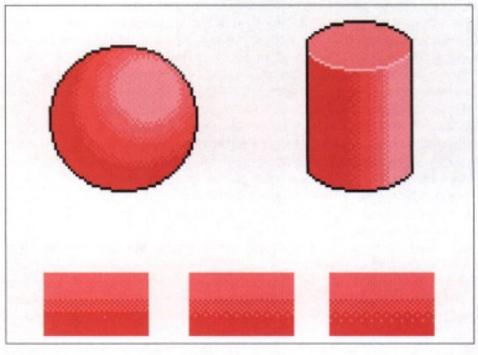
4 These two circular shapes don't use perfect pixel lines, but the cylinder still fits within the original isometric grid. The quickest way to create circular shapes is with the Elliptical Marquee Tool, un-checking the Anti-aliasing option. Once your selection is correct, stroke it with a one-pixel line, and choose Center as the location option from the dropdown menu.



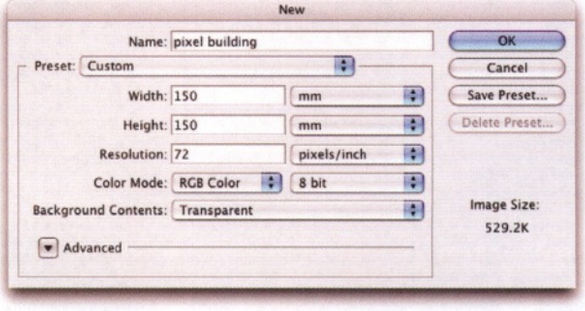
5 These shapes have been shaded to simulate a light source shining from the top-right. When you're filling an area with the Paint Bucket Tool, ensure that you have Anti-aliasing turned off, and select the Contiguous option. For the dividing lines, use a pale version of the main colour. This adds depth and sophistication – keeping all the lines black creates a more cartoony feel.

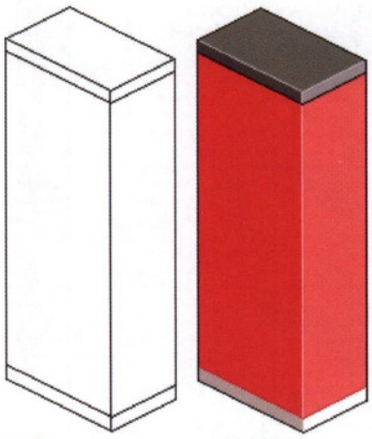


6 Here, the harsh tonal changes have been smoothed off by manually 'dithering' the colours. Dithering is the simulation of shading, and the way that halftones are created in a monochrome image. By creating halftones manually, you can ease from one colour to the next, and create a much smoother effect.

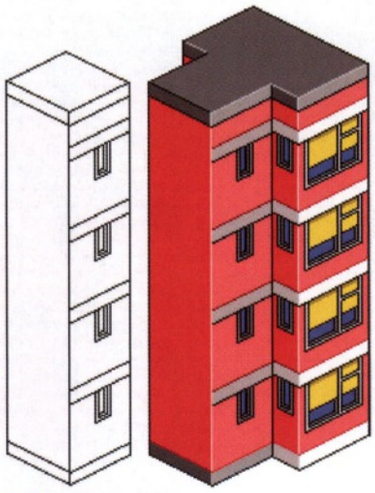


7 As pixel illustrations don't scale easily, it's essential to create your work at the exact size it will be seen. The image provided on the DVD is 150mmx150mm, so use that as your document size if you're recreating this image yourself. Set Resolution to 72dpi, and Color Mode to RGB.

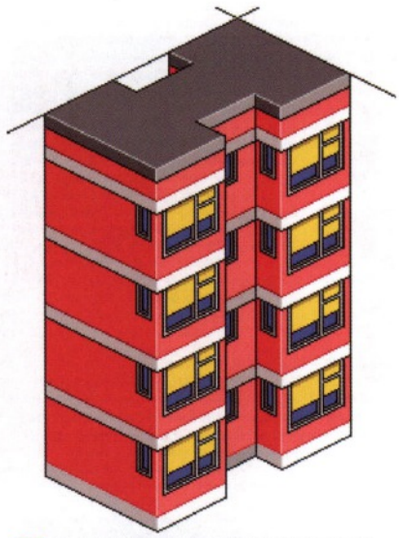




8 Using the 'perfect' pixel lines discussed in step 2, create your first block on a new layer, and shade it. In this example, all the lines coming towards the viewer are the same, so once you've drawn the base of the roof, use the same lines to form the base of the whole building. Decide on the direction of your light source, and shade the building accordingly. You can find an unshaded version of this block on the DVD.



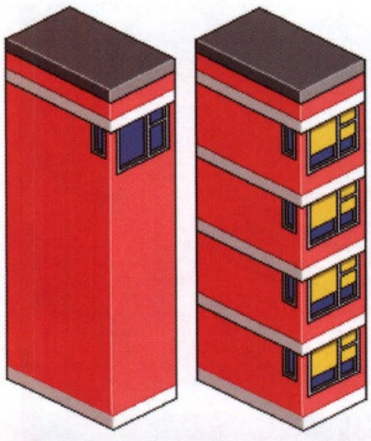
10 Create the second block on a new layer in the same way. Place it next to the first block, but recess it slightly, removing the dividing line on the top of the roof to create a continuous colour. You'll only need to add details to the front aspect, because the side of the building will be covered by the next block. You'll find an uncoloured version of this block on the DVD.



11 Copy your first block, and paste it into a new layer. Move this layer to the top, and position the block over the second block, but keep it in line with the first. It might help to create a guideline on a new layer to ensure that your blocks line up accurately. Again, remove the dividing line on the roof to create one continuous colour.

Contiguous vs Non-contiguous

Rather than drawing a selection and then filling it, which would take extra time, you can rely on the Paint Bucket Tool to work out the area you want to colour. The Contiguous option will fill any area within a boundary. As you're creating pixel shapes in outline, the boundaries are the edges of your drawn shapes. If you have a number of unrelated areas of the same colour and wish to modify them in one go, uncheck the Contiguous box.



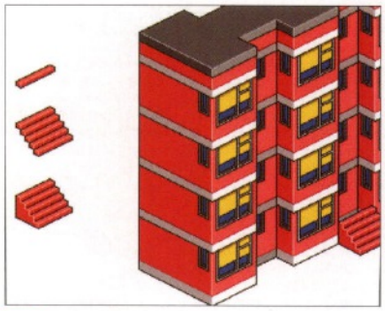
9 Now to add a few details to your block. Try to space windows evenly apart – the floors in a building are usually the same height, so the illustration should be no different. Give the windows a frame, and some depth. Creating elements such as window shades now will save time when you re-use the block later. Again, duplicate sections where possible; you can create variation at the end, when the basics are complete.

12 Copy the first and second blocks again, pasting into new layers each time. You should now have three large blocks and two smaller connecting blocks. Again, remove any dividing lines on the roof to create one continuous tone. You should now have created this basic block of flats...

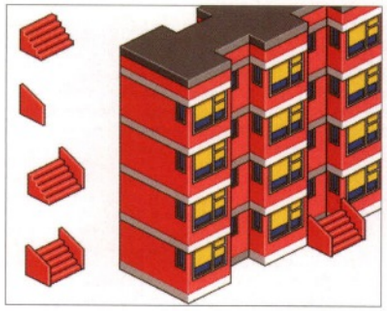
Creating pixel art, continued...

Pixel shading

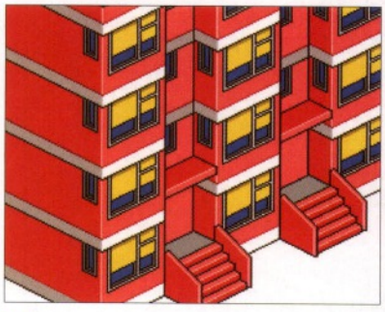
It can take a lot of practice to get the hang of pixel shading, depending on the style of illustration you're aiming for. Isometric pixel graphics such as those created here rarely involve anything too complex, as many of the shapes have hard edges. Graphics created for hand-held gaming devices have extremely sophisticated pixel shading, often using a very limited colour palette. Look online for screenshots of recent games to get a better idea of different pixel styles.



13 On a new layer, create a small shaded step to span the gap between the first and middle block. Duplicate this step a further five times to create a flight of steps, and then fill in the near side of the flight to create a solid block. A single step has been provided as a layer on the DVD.

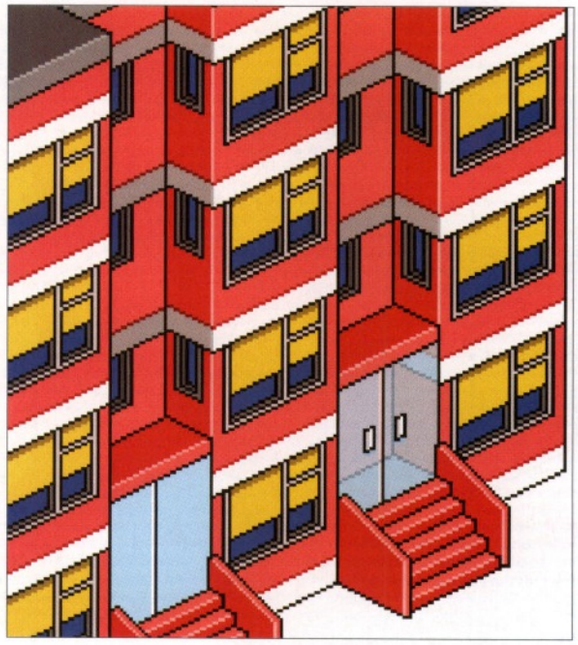


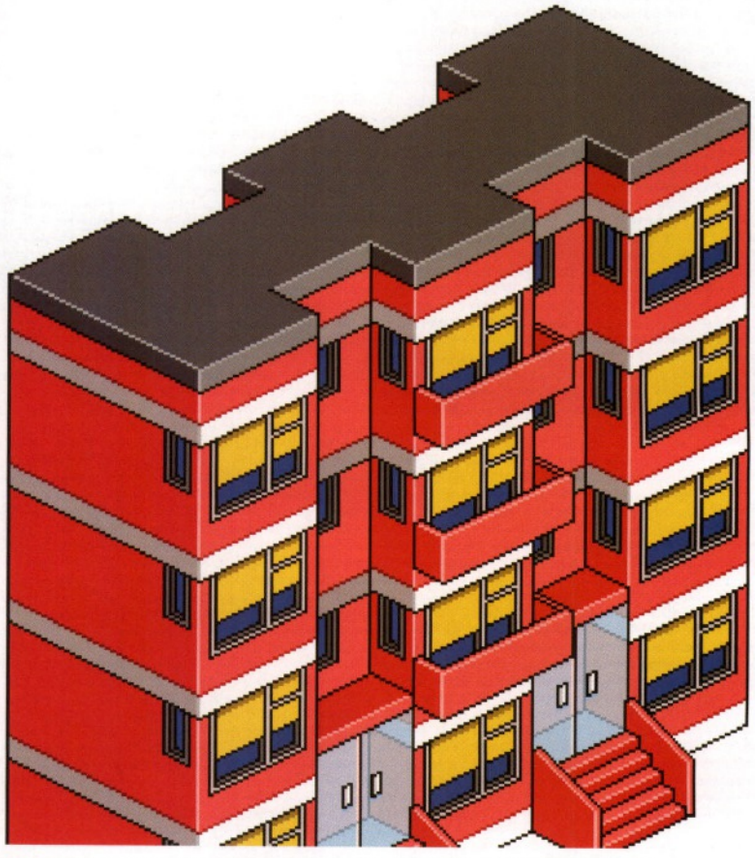
14 On a new layer, use more 'perfect' pixel lines to create the first banister. Copy and paste this into another new layer, and move it to create another banister on the near side. Once you're happy with your stairs and banisters, merge these layers to create one single step/banister element. You'll find a single banister as a layer on the DVD.



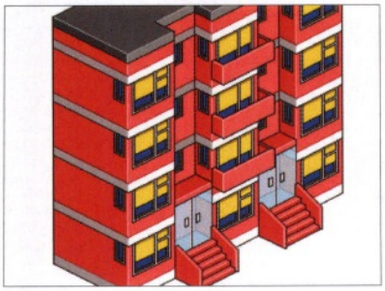
15 Move the step/banister element into position, as shown. On the step layer, extend the top step back to reach the recessed block, and fill it with grey. Cover the back window and the side window that overlooks the lobby with an appropriate colour, and create a small rectangular block in the same style to act as the roof for this section of the building. Duplicate this layer, and use it to fill the second recessed area.

16 On a new layer create a flat, vertical shape stretching from the top step to the base of the new roof. Fill this shape with pale blue, and draw one white and one black vertical line halfway across to create a left and right door. Change the layer's Opacity to 80% to create the illusion of glass. Duplicate your doors and panels, so each set of steps has a door.

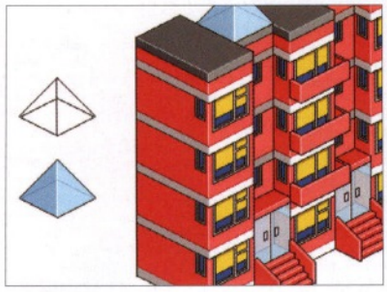




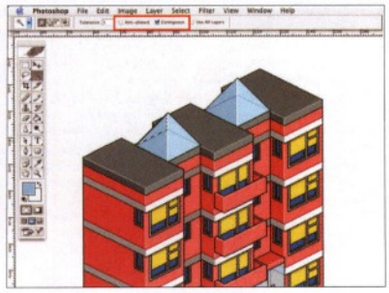
17 Now, on a new layer, use the same 'perfect' pixel lines and basic shapes to create a balcony. Shade this using the same techniques and shades you used for the rest of the building. Once you're happy, position it over the middle block, and duplicate for each floor above ground level. A single balcony can be found as a layer on the DVD.



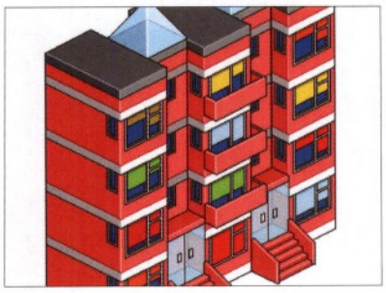
18 To create some variation, move back to the layer containing the central block. Remove the horizontal line on the right-hand side of each window to create two large windows, or double-doors, which would give inhabitants access to their balconies. Such small details add visual interest.



19 On a new layer, create a pyramid with a square base that's the same size as the roof of the recessed blocks. Fill with a pale blue colour, again paying attention to the light source. As this will be a glass skylight, keep the internal lines, and colour them a slightly darker version of your fill colour. Duplicate the skylight, and position both on the roofs of the recessed blocks.

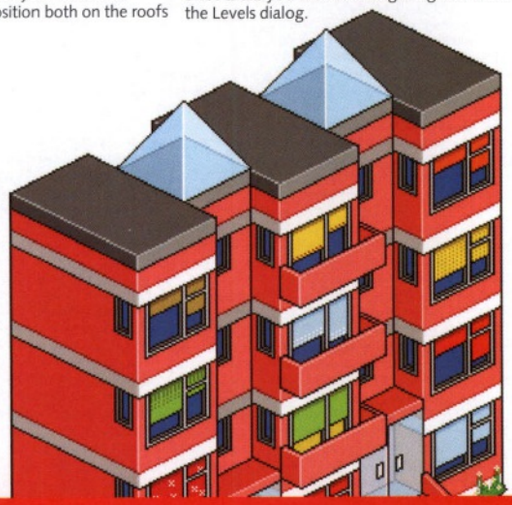


20 The top sections of glass should be lighter than those where the roof shows through. Select the Magic Wand Tool, and uncheck the Contiguous box. Click on the first top triangle of colour in the first pyramid, and, holding down Shift, select the other three areas you wish to change. Lighten them using the Levels dialog.



21 Return to the layers containing your original blocks, and alter the colour and height of the shades to create some variation. As you already have the shades in place, this should be a simple matter of moving selections up or down, and using the Paint Bucket Tool.

22 Your block is now complete. To add even more detail, you could add patterns to the shades, change the colour inside the windows or add plants to the balconies or around the steps, as shown here. The basic steps used to create this block can now be used to create any type of isometric building. Time to start creating the rest of your city!



Break out

Isometric pixel art is all about parallel lines. Try and include some different elements in your illustration, to break up the lines and add extra interest. Change the heights of buildings, or introduce plants, people or trees. More varied shapes will bring your illustration to life.

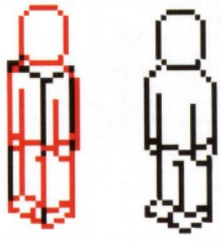
Pixel people

Remember, it's the people living in your city who give it vitality. And, while they may look more organic than the buildings, you can use the same techniques to create them...

1 Many of the shapes you created for your city were based on a simple isometric rectangle. To create people, use the same style of isometric block, making sure that it's of the right proportions to fit through the doors of your buildings – your people will look better if they're drawn to scale.

2 Create an oval, for the head, and bring the top of the box down to where the shoulders would be. See? Your figure is already starting to take shape.

3 Like a sculptor working with a block of stone, you can now adapt this block to create legs, feet, arms and hands. Just remember the isometric angle of your block, and keep the arms and legs exactly the same size.



4 Finally, colour and shade your figure – shading is as important on small elements such as these as it is on much larger buildings. With your figure complete, create some duplicates, and recolour them to create a whole city of people.

Freeform 3D

Nathan Flood takes up the challenge of using Maya and Photoshop to blend 3D and 2D with darkness and light, to create an image that suggests both order and chaos in equal measure

The techniques I used to create this tutorial image are slightly different from those I'm used to. Lately I've spent much of my time using only custom brushes in *Photoshop* and haven't included much 3D in my work for a while.

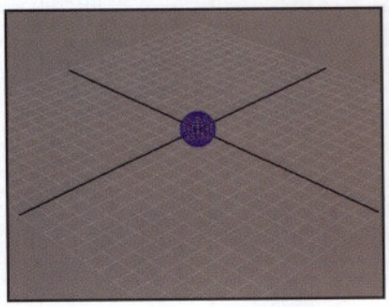
My trademark work has been described as extremely dark, so this project was a perfect opportunity for me to try something different – to create something bright and colourful. It was a challenge to create an image that used both darkness and light in equal measure.

I try to treat my digital images more like a traditional painting, and steer clear of crazy tricks, instead making use of the most basic tools. Some of the most advanced tools I use in *Photoshop* are custom brushes, which are essentially pretty basic. The trick, particularly with an image such as this, is to ensure that your work remains freeform. Don't worry about keeping things nice and neat – I like to make a mess, and through this tutorial I hope to show you to use *Photoshop* more like a canvas than a document.

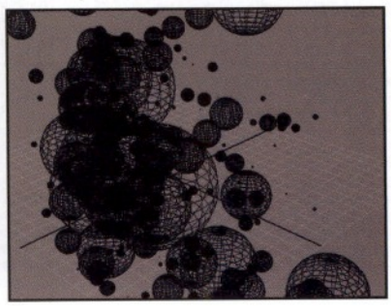
For those of you new to *Maya*, it's worth remembering that it's an immensely deep program, as is *mental ray*, and to explain its intricacies in full detail is next to impossible in the space I have here. There are full books dedicated to the how *mental ray* works, and countless books dedicated to *Maya*, so why not check out the CG community CG Talk (**http://cgtalk.com**) to find out more – I've learned more there than I ever thought possible from it.

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Freeform 3D

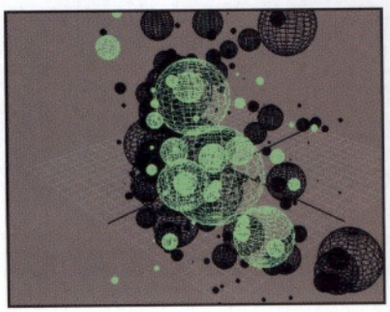
Combining 2D and 3D...



1 Open *Maya*. At the beginning, all my images start with a single, simple object or shape. For this image, start off by creating a sphere by selecting Create > Polygon Primitives > Sphere. You can use the reference images provided on the DVD to continue your sphere creation until you've created a cluster of particle-like objects.



2 There are several ways to go about creating your cluster, but it's best to keep it simple. Just duplicate, resize and move objects around until you're happy with the result. Don't be too specific about object placement at this stage – it's best to keep it random. Select all your objects, and save them to their own layer by selecting Layers > Create Layer.



3 You won't want to repeat exactly the same objects throughout your image, so separate your objects into two groups, and label them individually. You'll apply colour to your objects later on, but for now change one group to red and the other to white.

4 You can now add a new element to your image. Select the Pencil Curve Tool, and use it to draw all around and through your particle objects. Again, don't be too specific or careful – your line work should look quite aggressive. Select the line you've just drawn, and save it to a new layer.

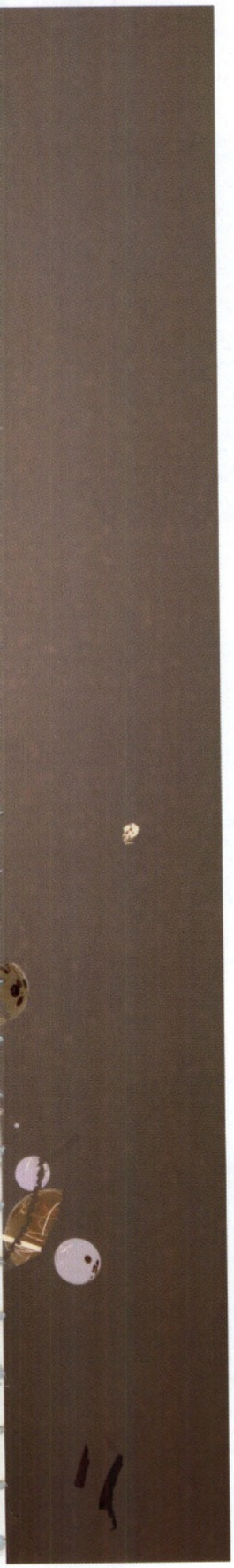


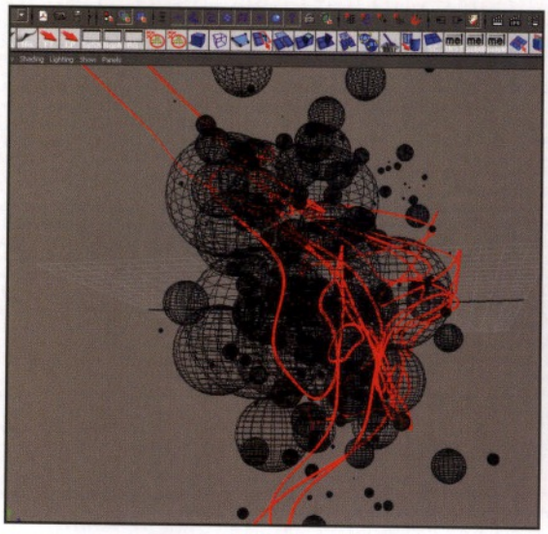
Illustration by Nathan Flood www.nginco.com

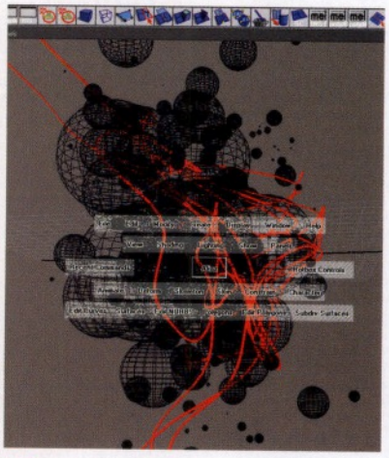
Combining 2D and 3D, continued...

Colours

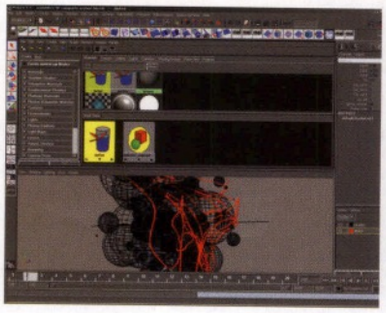
Don't underestimate the power of colour. I often spend more time on the colours within my work than I do on the actual pieces themselves. Colour allows you to set the mood, and direct the eye of the viewer in whatever way you want. Make the right decisions, and you can turn something bad into something very good.

5 Once you're happy with your lines, extrude a NURBS Circle along the path you've created by selecting the circle, then the curve and going to Surfaces > Extrude. Experiment with different camera views, moving the camera around, and save the views you like by keyframing the camera's location – select a keyframe on the timeline and press the S key.

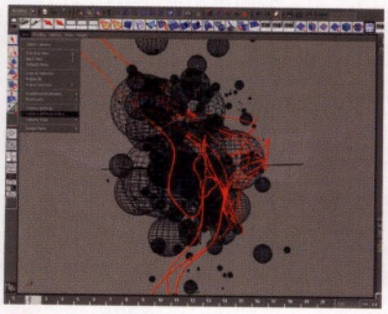




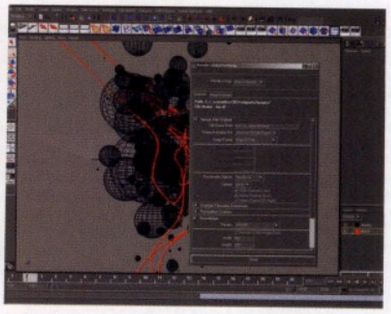
10 Once you've set your Camera Attributes, go to Render Globals using the Hot Box, and select Window > Rendering Editors > Render Globals.



6 You can now add some materials to your particles. Open the HyperShade Window, and experiment with a few mental ray shaders and settings until you find what you're looking for. For this image I decided on a dielectric_material for the particles, and a Maya Surface Shader for the attack line.

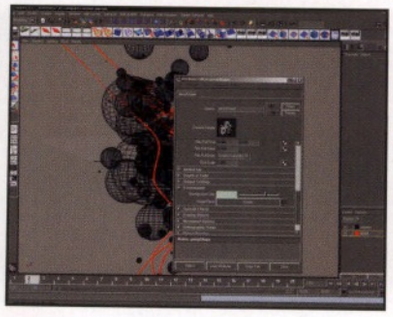


8 You can now create a render. For this piece, you'll need to render with Final Gather using no lights, so change the colour of your environment from black to something brighter by choosing View > Camera Attribute Editor > Environment > Background Color.

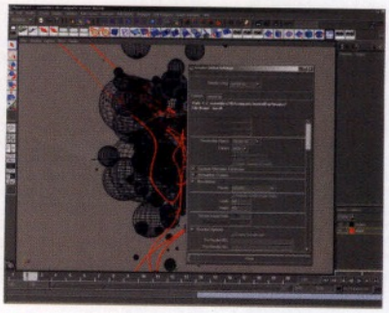


11 You'll notice when opening the Render Globals that everything (by default) is set to use the Maya Software Renderer. To change this back to mental ray, click next to Render Using, and select mental ray instead.

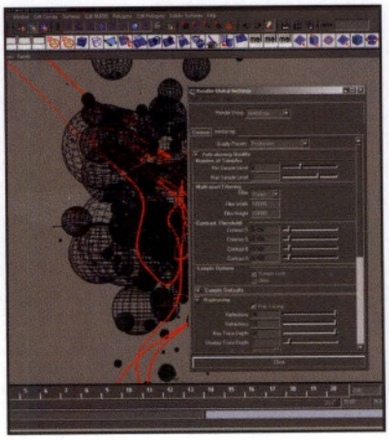
7 Surface Shaders, with certain settings, can essentially be used as Object Lights. For this piece, I wanted the attack line to be a line made of light, so the Surface Shader was perfect. To make your Surface Shader act as an Object Light, change the value of white to higher than pure white (1). For the line, change the value of V to 10.



9 Choose a light blue-green colour with low saturation. It's important to get this process right if you're to avoid your render appearing entirely black.



12 When switching to the mental ray Renderer you should first scroll down to Render Options and uncheck the Enable Default Light box. For this image you'll be using Final Gather, so make sure you turn off the default Maya lights.



13 To ensure a high-quality render, you should now change the Quality Presets to Production. If you go ahead and render using the program's default settings, the results will be pretty low quality.

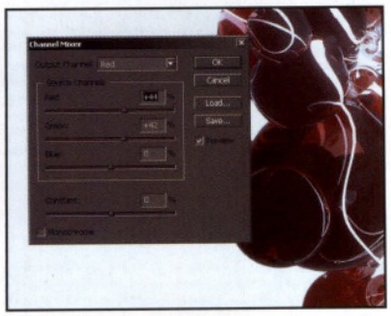
16 Mental ray behaves strangely when it comes to rendering alpha channels, but you can fix this by using a Maya Surface Shader, and attaching one to each of your mental ray shaders. By connecting the Out Value of your mental ray shader to the Out Color of your Surface Shader, you'll have an alpha channel along with your render.

Start basic

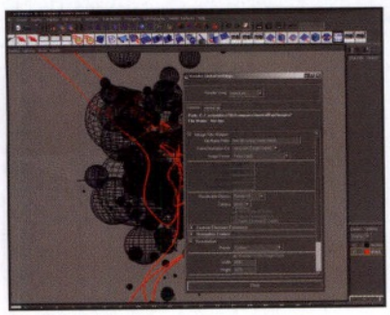
Whatever you're working on, keep your ideas, shapes and whatever else you create as rough as possible for as long as you can. By doing this you'll lay down a strong foundation that you can then build on with finer details. Add detail too early and you'll regret it later on.

14 Use the following settings for the Final Gather. Because your final render will be very large (4,500x3,375), you should keep the setting for Final Gather Rays at 100. In most cases, when rendering at D1 size for example, you'd want to go with more rays (500 or so).

17 Once all of the settings are in place, start a batch render, and make yourself busy for a while! Render times can vary, but when rendering at such a huge size don't expect it to finish quickly. That's it for *Maya* – now on to *Photoshop*...

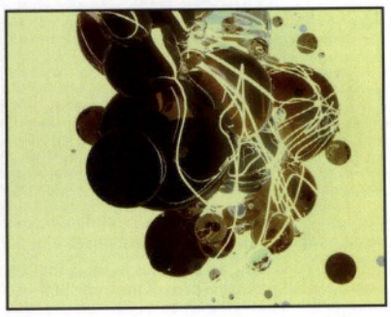


19 You can now adjust your colours. Make sure the colours you choose capture the mood you're trying to convey. The key tools here are adjustment layers, because, as you probably know, you can go back and remove the layers, or edit them at any time until you're happy with the result.



15 Now go back to the Common tab and change the Image Format to Targa (.tga). At this stage you should also change the Width and Height settings for the render – I changed mine to 4,500x3,375.

18 Once *Photoshop* has been launched, select your render's alpha channel, create a new document that measures 4,700x3,484 at 300dpi and paste the alpha channel into it.

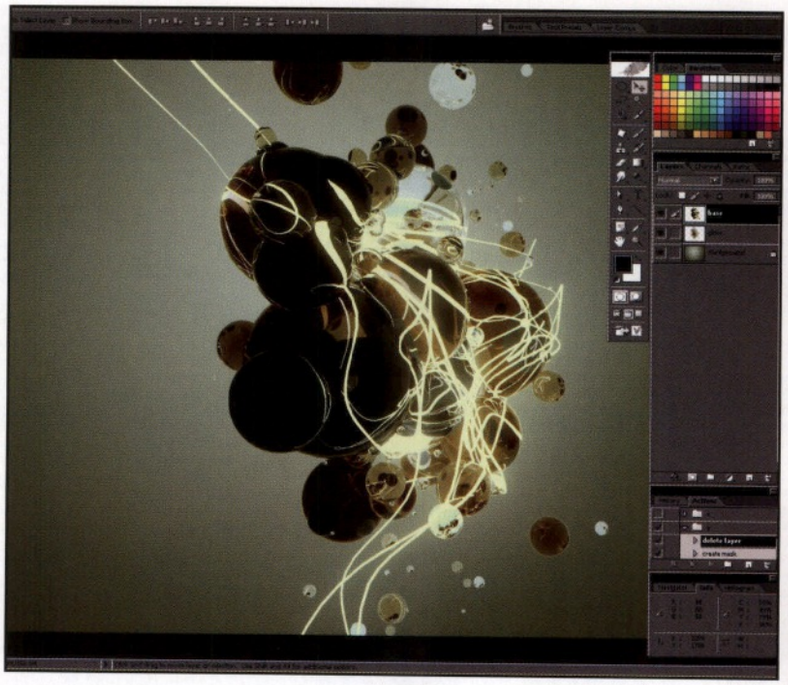


20 Now save your file, flatten the image, and then resave it as a different file. By flattening at this point, you'll save yourself time if you go back to make further changes to your adjustment layers at a later stage.

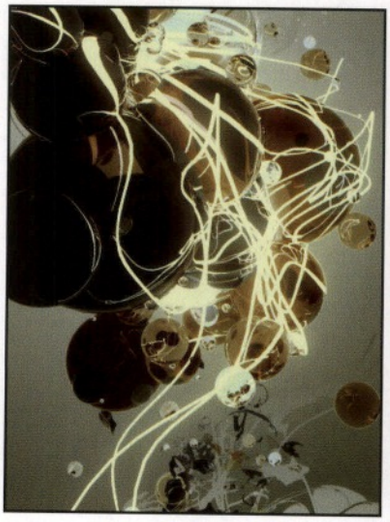
Combining 2D and 3D, continued...

Inspiration

When you're creating something new, try not to draw inspiration from existing work. Instead be inspired by what's outside your window – nature, what you're eating, anything really. It's a good idea to mix two things that don't really belong – animals and metal, for example. You might be surprised by the results...

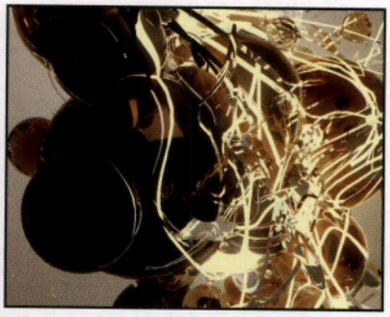


21 The bright yellow background doesn't really work, so use a gradient and some airbrushing to create an effect of your own. Add a glow layer to produce a backlighting effect by duplicating the object (base) layer, blurring it, and moving it below the base layer. Finally, change the blending mode to Screen.

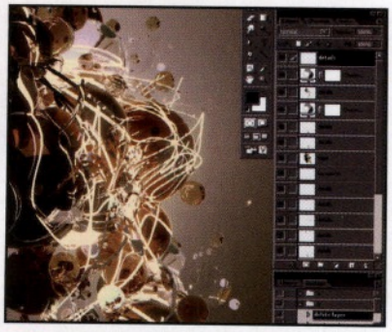


22 Now add some details, either by using the Lasso Tool to select some parts of the layers that already exist, or creating a hard brush, painting, then doing some quick lighting. Both methods were used for this piece. I'm pretty big on using masks, as well – the Eraser Tool is too permanent when you need to make constant changes.

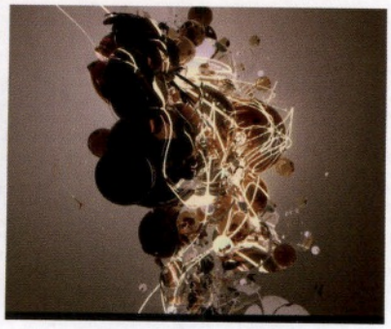
23 You can now add more detail where you feel the image needs it – just make a mess. My layers may look organised and clean, but I usually have a very messy workflow, and often don't worry about naming layers until later (if ever). I work in *Photoshop* in as traditional a way as possible, so it looks more like I'm scribbling on paper.



24 Add more aggression and chaos to your image. Focus on creating big pieces first, before detailing them by playing around with colour. Add detail by selecting the Brush Tool and using a large brush to create a base shape. Reduce the size of the brush, and paint in detail using a range of colours.



25 As a finishing touch, and to add some extra texture, add some spore-like particles to the background of your image. Some finishing touches, and yet another colour change, and the piece should now be complete.



26 And that's it. Your final image should now be ready. The screenshot above shows how your image should look, viewed in *Photoshop* at a full screen preview of 25%.

FEELING FLAT? GET INTO 3D ART

3D WORLD
THE MAGAZINE FOR 3D ARTISTS
INSPIRATION / EXPERT TUTORIALS / CD INSIDE
CROWD CONTROL
Simulate a school of fish in motion using 3ds Max's Crowd system
SIGGRAPH 2005
ROBOT HORDES
Harness the power of the Xbox 360 to create your own clone army
OPINION
Lucas speaks out on life after Star Wars
NEW TECHNOLOGIES
human 2.0
How virtual characters will look and act by 2010
ON TEST: MAYA 7 & XSI 5
FACIAL MODELLING TRICKS
CG LIGHTING: THE BASICS
THE MAKING OF 24: THE GAME
STUDIO PERKS: THE TRUTH!
INSPIRATION / EXPERT TUTORIALS / CD INSIDE
ANIME IN 3D!
POSER 6.0
ON THE CD: POSER DEMO DAZ 3D ANIME FIGURES, CLOTHING & MORPHS
WORTH $120
3D WORLD
CD70

In 3D World each issue

Practical tips for every major 3D software package
Step-by-step guides to modelling, animation and design
Training and resources worth hundreds of pounds on the CD

THE MAGAZINE FOR 3D ARTISTS

www.3dworldmag.com

Anaglyph images

Creating custom anaglyph images may sound tricky, but it's not. **Jason Arber** shows you how, with the help of Photoshop and some specialist 3D software, you can easily create convincing 3D images that have serious specs appeal

Everyone's seen photographs from the Fifties of row upon row of movie-goers wearing cardboard glasses with coloured lenses, transfixed by the images they're seeing. The glasses allowed viewers to get the full effect of movies presented in 3D.

Viewing 2D images that appear 3D in print and on screen is as popular as ever. There was a cinematic resurgence a few years ago, when *Jaws 3* was filmed as *Jaws 3D* and the *Amityville Horror* franchise spawned *Amityville 3D* (now available on DVD as a collector's edition).

There are several ways you can fool the eyes into believing that the projected images on screen have depth, including polarising lenses and interlacing images, but the most common technique is red/blue anaglyph (sometimes red/cyan or red/green). We'll leave the technical explanation of how this works until later.

Creating custom anaglyph images is usually the reserve of specialist companies, but convincing anaglyph images can be created in *Photoshop* alone. However, much better results can be achieved with the help of free software called *AnaglyphMaker* – Uk readers can download the Mac version from **www.macupdate.com/info.php/id/14129** and PC versions are available at **www.photo-freeware.net/anaglyph-maker.php**. Overseas readers should use their search engines to locate a local mirror site.

When creative agency Now Wash Your Hands needed to come up with a visual look for its third birthday party, it didn't take long to connect the words 'third birthday' with third dimension. From there, the idea developed until we were printing invites using the tried and tested anaglyph method, and giving out 3D glasses to party goers! Although specialist companies still have nothing to fear, here's a quick and simple introduction to creating these clever and convincing images... ■

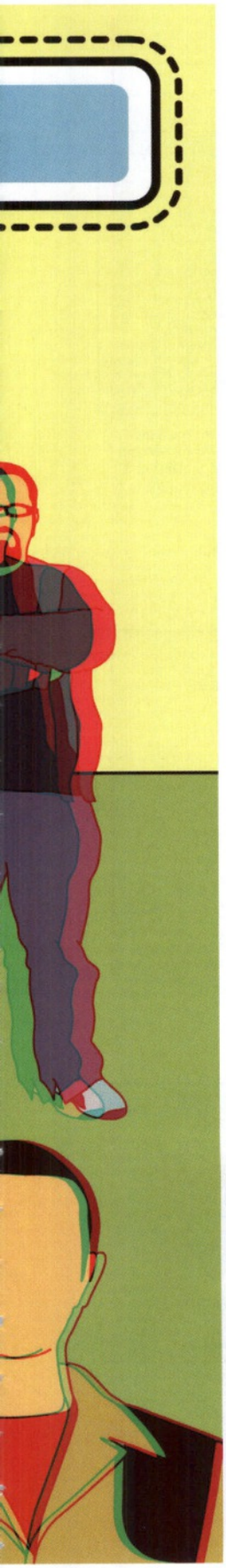
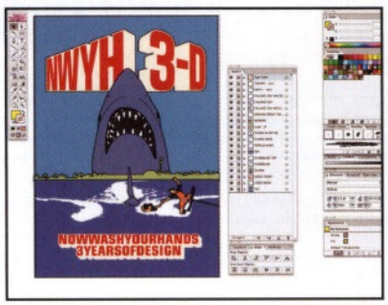
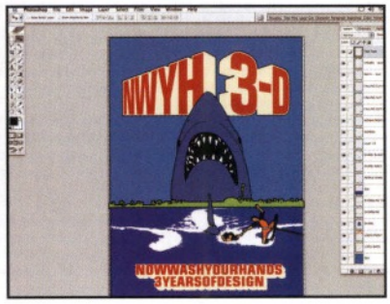


Illustration by Jason Arber www.nowwashyourhands.com

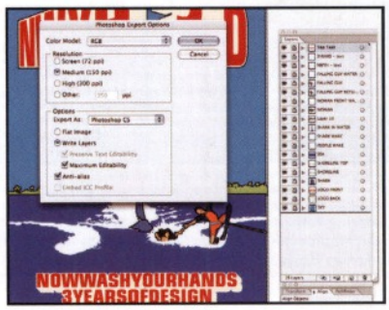
Creating anaglyphs



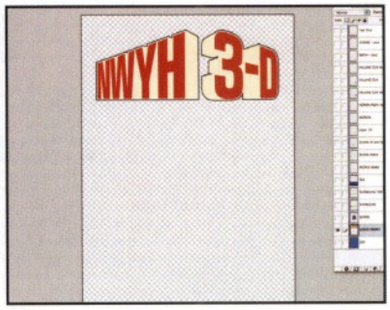
1 The first step is to create your artwork in *Illustrator* (or open up the image shark.ai from the DVD). You must ensure that your image is split into as many layers as possible for this technique to work. To maintain clarity, make sure the layers are labelled clearly.



2 Once you're happy with the layout, export the image into *Photoshop*. From the File menu choose Export... and select Photoshop (psd) from the file format dropdown menu. Make sure that the Write Layers radio button is selected in the Export Options dialog box, and click OK.



3 Open up the file in *Photoshop*, and ensure that all the layers have been written correctly. Although *Photoshop CS* is the ideal program to use for this project, it's possible to use any version of *Photoshop* that supports layered files.



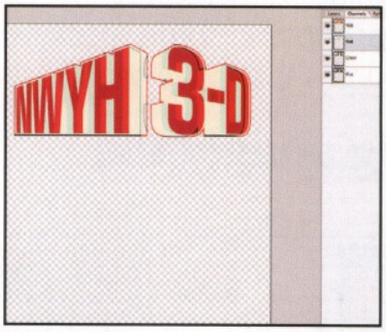
4 This initial method works by offsetting the red channel from the blue and green channels. Each item will need to be offset by varying amounts to create different zones of apparent depth. Start with the furthermost object – in this case the logo – and hide the other layers.

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Anaglyph Images

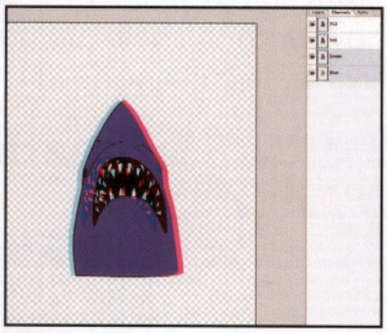
Creating anaglyphs

Get some specs

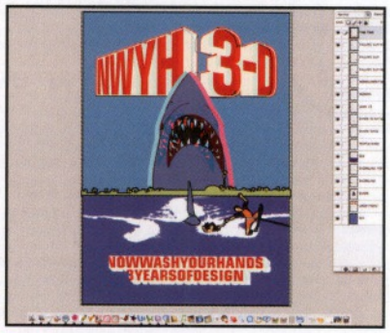
To get the most from this tutorial, you'll need to view your work in 3D. You can get hold of some retro 3D glasses from www.3dimages.co.uk.



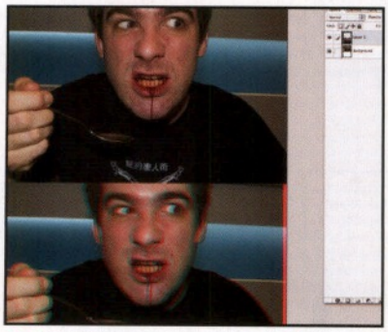
5 With the Channels palette selected, click on the Red channel. This will immediately convert the image to greyscale, showing only the 256 levels of grey in the red channel. Use the left arrow key to nudge the red channel to the left – click the eye icon next to the RGB channel to preview the effect.



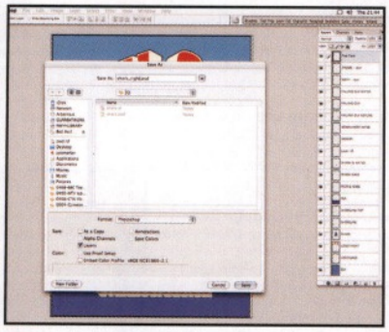
6 Repeat this process with different elements on different layers. The closer to the viewer, the smaller the amount of horizontal offset you'll require. Remember that the item apparently nearest the viewer will need no offset at all.



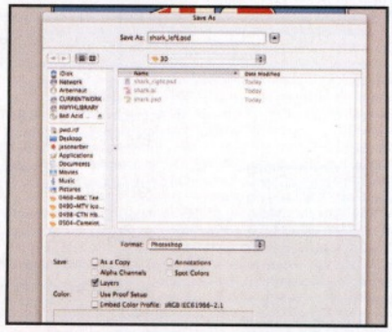
7 Now turn all the layers back on. You'll see mixed results. Although this work is heading in the right direction, the areas that contain items on different planes are unconvincing, as is the overlap effect.



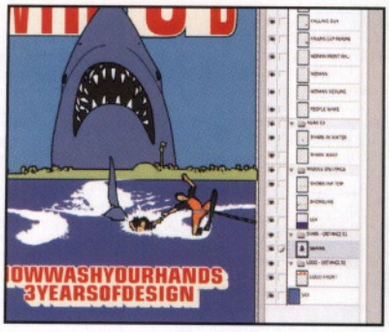
8 This 3D-effect technique is best suited to creating quick 3D images with no planes, especially when you're working with photographic subjects rather than simple, graphic images, where the aim is to lift the image off its background.



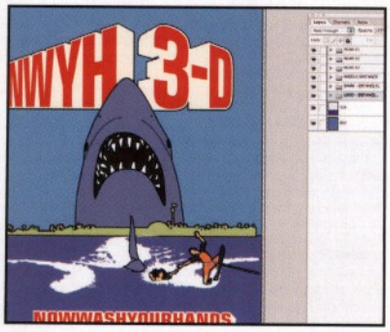
9 It's now time to call in some specialist software, but you'll still need to do your preparation in *Photoshop*. First create two images, a left image and a right image. Use the History palette to revert the image to the state in which you first opened it, and save it as your 'right' image.



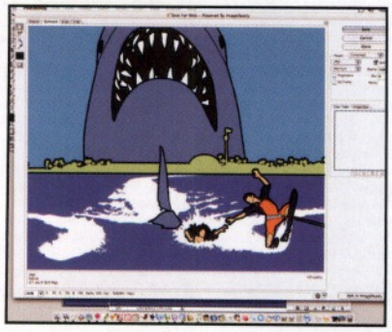
10 All the changes are going to happen in the 'left' image, so take the file you just saved and choose File > Save As. Choose a file name, ensuring that it has the word 'left' in the title, and make sure the layers are all still intact.



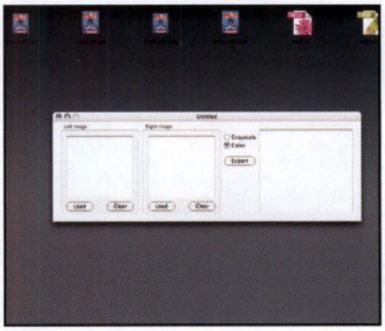
11 With the left *Photoshop* file open, start to group the layers into distinct zones that correspond to five or six distance planes. This will make the management and editing of the planes much easier.



12 Using the techniques that you used earlier, start to offset the different distance planes. The further away an object appears, the more it will need to be offset. Only items in the layer groups need to be offset, so don't worry about the channels.

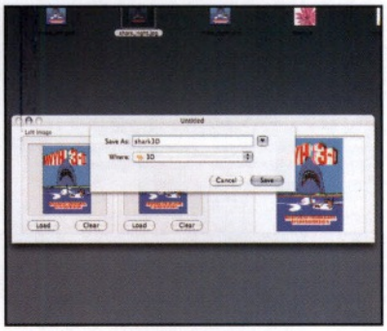


13 Once you've offset the layers, save the 'left' file as a JPEG (or any other QuickTime-supported file format). If the file has a fairly low resolution you could use *Photoshop's* Save for Web command instead, by choosing File > Save for Web...



14 Open the 'right' *Photoshop* file, and repeat the process so that you end up with two files of the same type and size; one for the left eye and one for the right. Once you've downloaded it from the sites listed in the introduction and installed it, open up *AnaglyphMaker* – it contains two wells into which you can drag and drop images. The PC version will work in broadly the same way.

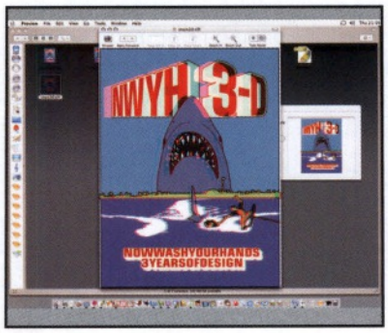
15 Drag the 'left' image into the left well, and the 'right' image into the right well. *AnaglyphMaker* will get to work immediately, working its way through all the behind-the-scenes calculations. Within seconds a preview of your anaglyph image will appear in the far-right well.



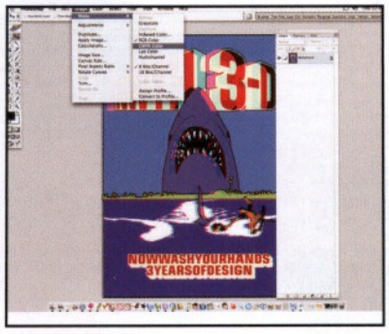
16 Click on Export to save the combined image as an RGB TIFF to a location of your choice. The Mac version of the software will only let you save your images as TIFFs. If you need them in another format, revert back to *Photoshop*. Luckily, TIFFs aren't a 'lossy' format, like JPEGs and GIFs.

Anaglyphs

Anaglyphs are colour-encoded stereo images, usually red and blue. As a result of this encoding, a person wearing glasses with red and blue lenses will perceive a sense of depth. The effect is achieved by offsetting depths within the image so that as the image is routed into the left and right eyes, and subsequently reassembled by the brain, a 3D image is created. Zowee!

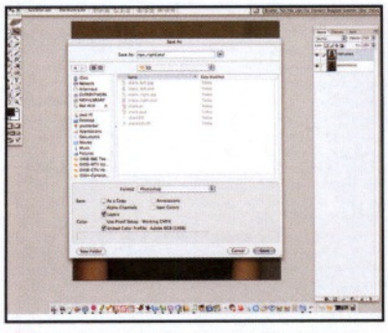


17 Open the resulting file in *Photoshop* or another previewing application, and, armed with a pair of anaglyph glasses check out your handiwork. You should have created a convincing sense of depth within the image.



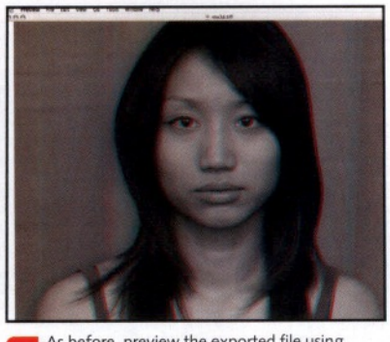
18 Although CMYK anaglyphs for commercial printing are really the domain of specialist companies, acceptable results can be achieved simply by converting the RGB TIFF into CMYK within *Photoshop*, by choosing Image > Mode > CMYK Color.

19 For successful multi-plane photographic images, you'll need to cut out the main figure or object, and, using the Clone Stamp Tool, eat into the figure in the background so that once the main figure is offset it doesn't reveal a duplicate underneath. This screenshot shows the cut-out figure, and the cloned background beneath.



20 From this point, the process will be the same. Save 'left' and 'right' images of equal types and dimensions, and offset the 'left' image.

21 Drag the 'left' and 'right' images into the wells, but this time select the greyscale option. Because the coloured lenses of anaglyph glasses distort the colour of images, many people prefer black and white anaglyph images, which are often easier on the eye.



22 As before, preview the exported file using anaglyph glasses to ensure the effect is as expected. The Mac version of AnaglyphMaker will allow you to save your image as a single .anaglyph file so you can re-import more quickly at a later date.

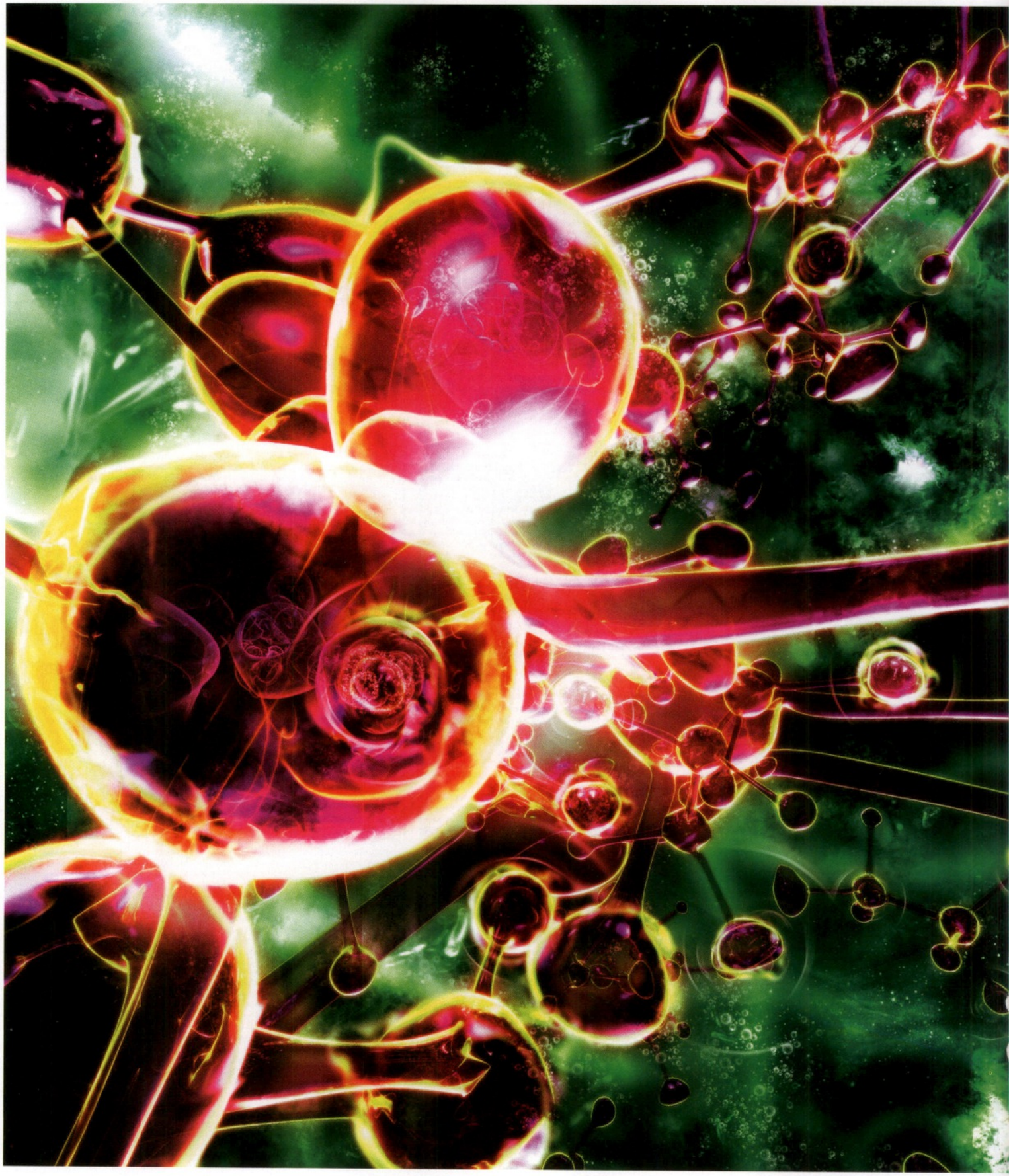


Illustration by Anthony Kyriazis www.onyro.com

Abstract glow

Take 3D renders to another level using extreme multi-layer manipulation, and achieve some amazingly complex effects. You might get some surprising results – but that's the best bit, says **Anthony Kyriazis**

Illustrators are often required to produce magnificent and complex images within short deadlines and tight budgets. These images need to be flexible, and allow for unexpected client intervention – colour variation, and so on.

Photoshop makes this easy, not only through its magnificent adjustment layers feature, but also by offering options for multi-layering techniques and folder use. Most abstract illustration requires the use of a 3D package at some stage, but it's impossible to imagine that you could achieve the exact look you're after solely within a 3D application, without any image manipulation applied to the final render.

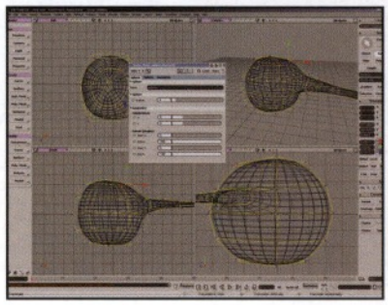
The difference between the initial render and the final image produced for this tutorial effectively shows the benefits of minimising the time spent on modelling and rendering, and instead focusing on reworking the image within *Photoshop* itself.

Making slight changes to the layer blending modes, or adding an adjustment layer may result in a huge visual change to your image, and send your creative results off on a completely different tangent. So *Photoshop* becomes an integral part of the design/illustration process, and enables you to present more options to your client.

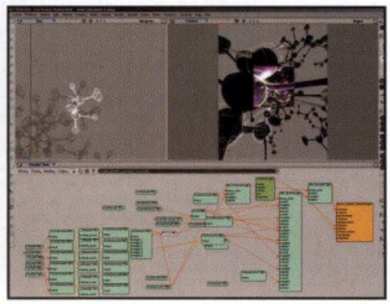
For this tutorial, you'll start by importing a rendered image created using a 3D application of your choice. For this image, I used *SoftimageIXSI 3.5*, and the result underwent two days of modelling, shader development and final rendering. Do bear in mind that rendering times for this sort of high-resolution image are extremely high. ■

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Abstract Glow

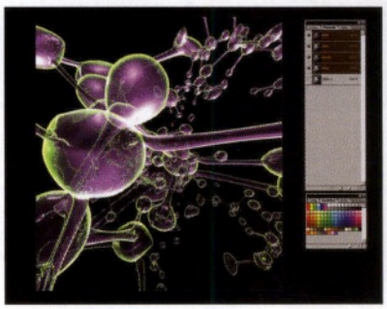
Create an abstract glow effect...



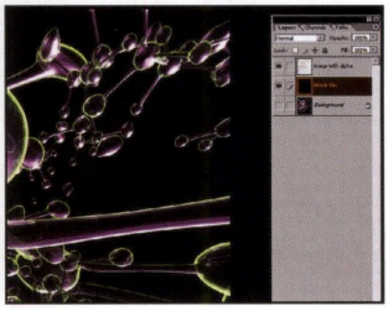
1 In *Softimage*, create a low-res polygon sphere, deform it using the Point tools and Noise Deformer, then select individual faces, and extrude them to create connecting branches. Select a face on the second polygon and the end face on the extrusion, and bridge them. Repeat until you've created structures you're happy with. Subdivide the object, and apply a generic shader with lots of Incidence Transparency. Render the image out as a high-res .tga file, which will create an alpha channel you can use within *Photoshop*.



2 Alternatively, in *Photoshop*, open ca_onyro_tutorial.render.tga, provided on the DVD, duplicate the Background layer and fill it with black. Open the Channels palette, right-click (Ctrl+click) on the alpha channel to create a selection, and invert it. Finally, open the Layers palette, and press Delete to delete the black around the cells. You'll now have the rendered image as a transparent layer above a black background.



3 Duplicate Background copy twice. Apply a Gaussian Blur of 15 pixels to one copy, and set its Opacity to 60%. Now set the other layer's blending mode to Screen. Draw a selection around the main cell on Background copy, and copy and paste it into a new layer. Scale it until it fits the full page, and apply a Gaussian Blur of 20 pixels.

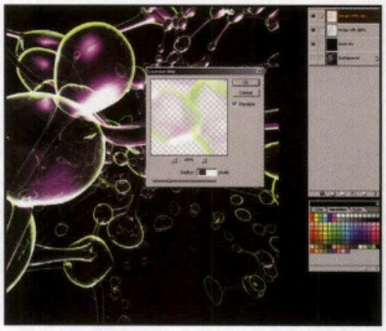


4 Open assets.psd from the DVD, and drag its 'stars' layers into the tutorial file. Apply a Screen blending mode to them. You can now duplicate some of these layers, and apply a Soft Light blending mode. Rename Background copy 'Render clear'.

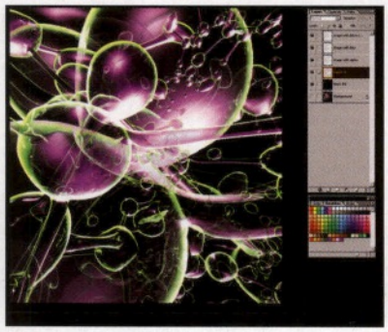
Create an abstract glow effect... continued

Layer up

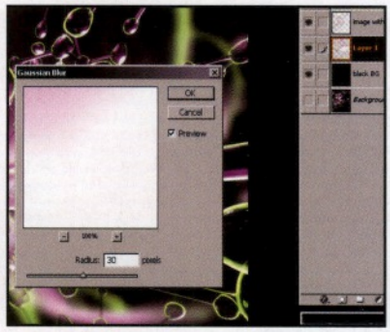
Use as many layers as you can for this project, as this will enable you to create a very flexible file that has extensive options for tweaking. If you want to change the colour of one of those layers, use an adjustment layer with a mask.



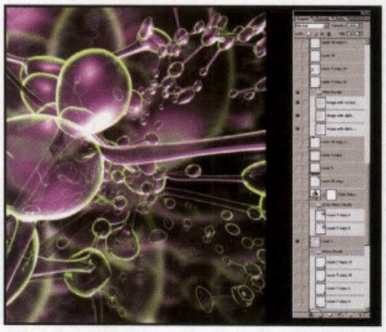
5 Add a Color Balance adjustment layer, and set the Midtones to –23, +84, –11. Duplicate the Render clear layer, and move it above the new adjustment layer. Duplicate this layer and apply a Gaussian Blur of 15 before changing the blending mode to Soft Light. Duplicate this layer twice. Now duplicate Render clear, move it above the blurred layers and apply a Screen blending mode.



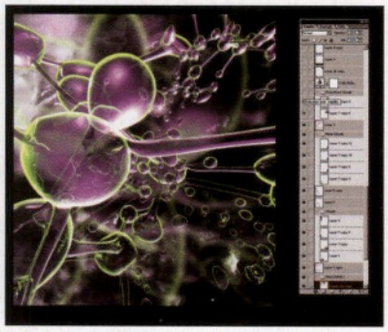
6 Duplicate Render clear again, and set its blending mode to Overlay. Create a new layer, and apply a black to transparent gradient from the bottom to the middle. Do the same from the top to the middle, and set this layer's blending mode to Soft Light.



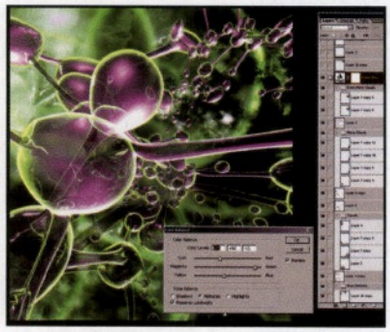
7 Using the Lasso Tool, make a selection of the biggest cell on the Render clear layer. Copy and paste this selection into a new layer. Move it to the top of the layer stack, and name the new layer 'Smudge Clear'.



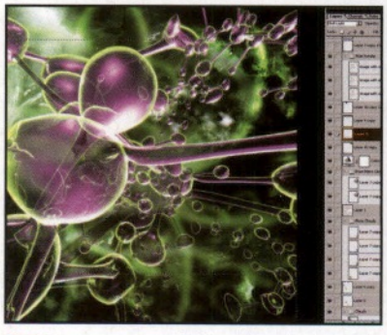
8 Using a 300-pixel Eraser with the Airbrush setting enabled, remove the middle of the cell so that just the outline shows. Also remove the outside leftovers. Duplicate this layer, blur it by 10 pixels, set its Opacity to 45% and merge it with the parent layer.



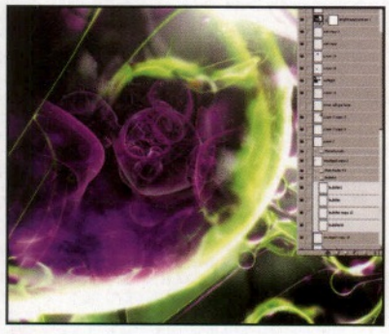
9 Using a 200-pixel Smudge Tool, move the brush around the cell's outlines using a slightly uneven motion. This will start to distort the image. Duplicate the layer twice, and scale the first copy by about 105%. Duplicate the second copy slightly to the left, and set its blending mode to Overlay.



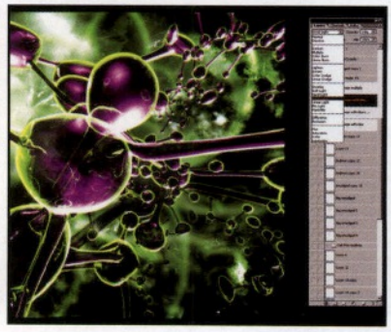
10 Duplicate 'Smudge Clear', and blur the copy using a Gaussian Blur of 25 pixels. Set its Transparency to 45%. Duplicate the layer once again, and set the blending mode to Overlay. This will enhance the layer's clarity.



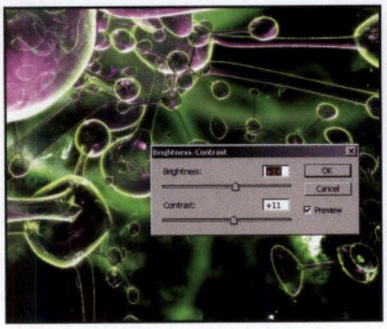
11 Repeat steps 8-10 for the other cells within the image to give their outlines a striking flame-like appearance. This will add more depth to the image.



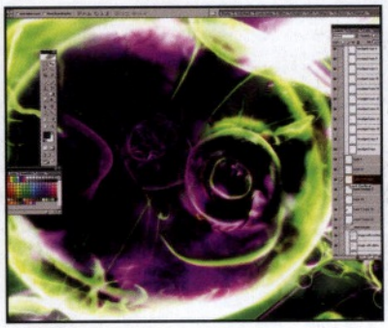
12 Drag Render 002 and Render 003 from the assets.psd file into your *Photoshop* file. Set their blending modes to Screen, and move them into the centre of the two largest cells. Place a duplicate of both on top of each other within the largest cell.



13 Create a new layer at the top of the stack, and, using a 200-pixel airbrush, draw roughly around the cell's outlines. Blur this layer with a Gaussian Blur of about 40 pixels, set the blending mode to Overlay and the Opacity to 30%.



14 Create a Brightness/Contrast adjustment layer and set its values to +14 (Brightness) and +11 (Contrast).



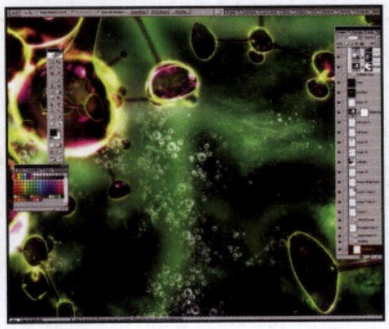
15 Make a selection around another smaller cell, and repeat steps 8-10. Move the resulting layer into the centre cell. Repeat this process for as many cells as you like, but for the best results alter the cells within the image's focal point.

16 Create a Hue/Saturation adjustment layer and set its values to 0, 100 and 0 respectively. Set its blending mode to Screen, open the Channels palette and right-click (Ctrl+click) on the alpha channel to create a selection. Invert the selection, then click on the layer mask thumbnail, and fill with black. Apply a ten-pixel Gaussian Blur to the mask, and duplicate the adjustment layer.

Get glowing

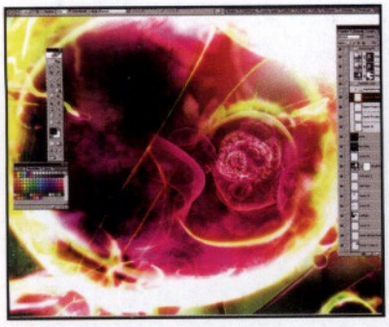
If you duplicate a layer, add a Gaussian Blur of 10 pixels and set its Opacity to 50%, you'll add a subtle glow and shine to your object. Duplicate this layer, and set the blending mode to Soft Light or Screen.

17 Create a new layer, and fill it with black. Go to Filter > Noise > Add Noise. Set Amount to 6%, Distribution to Gaussian and check Monochromatic. Set the blending mode to Screen. Create another new layer, choose Filter > Render > Lens Flare and move the flare centre to the space where the white hits the second large cell. Desaturate the layer, apply a Screen blending mode and reduce the Opacity to 49%.

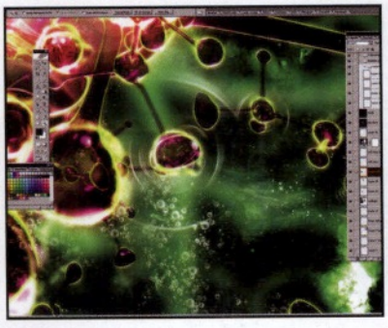


18 Drag the Bubbles layer from the assets.psd file, place it where you think is most appropriate, duplicate it a few times and set the blending modes to Normal, Hard Light or Soft Light.

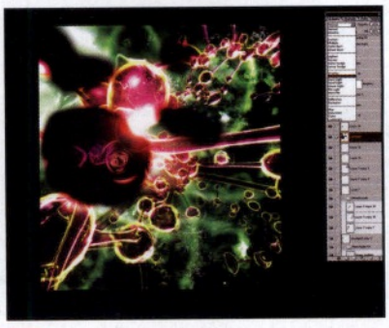
19 Add a new layer, set its blending mode to Soft Light, and use an airbrush to add some black around the cells. This will give more contrast to the colours, and damp down the brightness of the glows around the main cells.



20 Make a selection around one of the bubble layers, and copy and paste the bubbles into new layers. Arrange the layers so that the bubbles form a circle, and place them around the small cell, which is within the main focus of the screen.



21 Drag the Ripples layer from the assets.psd file into the tutorial file, and scale it to fit on top of the smaller cells. Duplicate this layer numerous times, and transform accordingly around the other cells.



22 Final touches are always a personal preference, so play around with subtle changes to all of the adjustment layers. Sometimes, changes push you on to a totally different tangent, enabling the image to evolve one step further.

Modern city composition

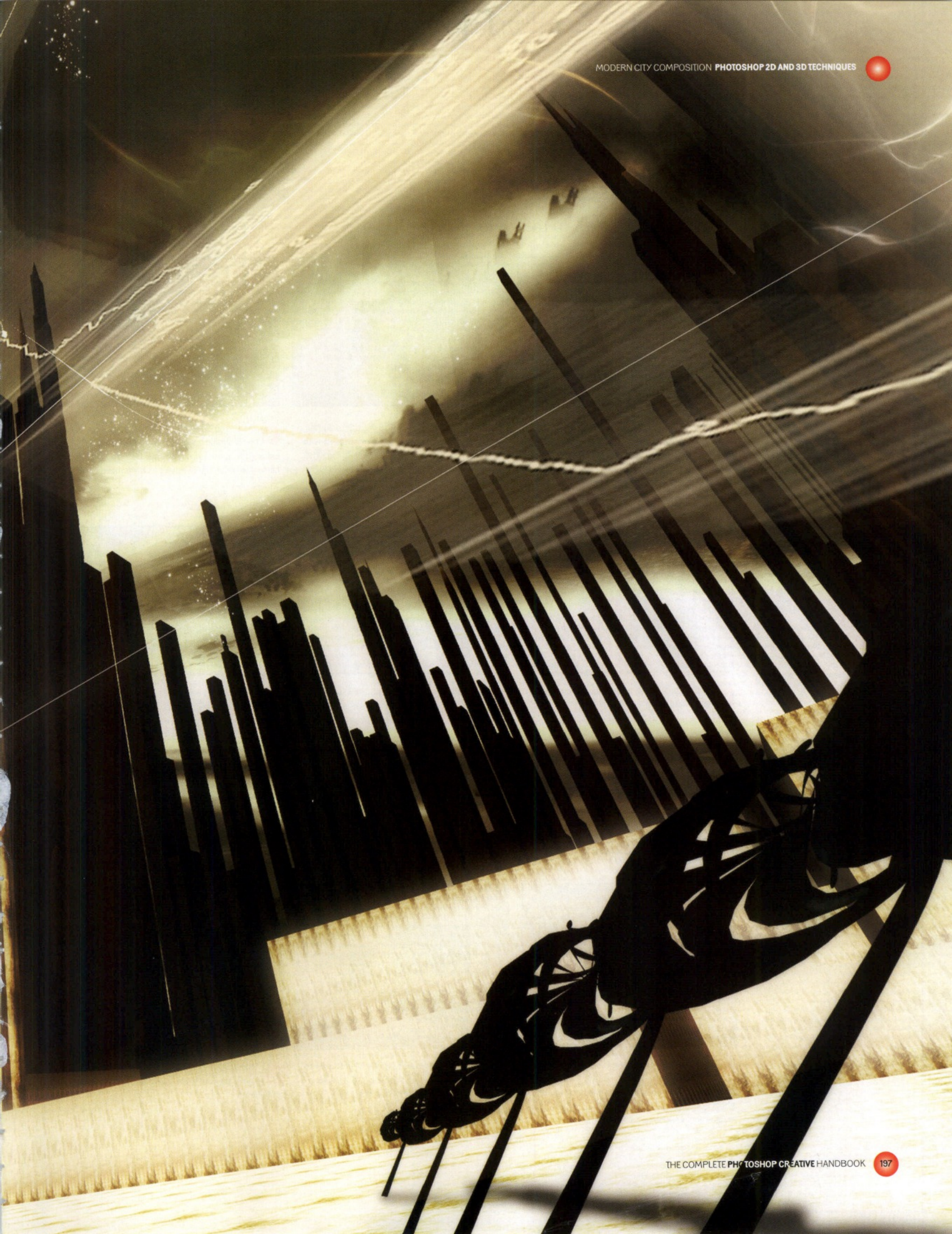
Use a rendered 3D image to build a modern cityscape with multiple layers and blur and glow effects...

The following tutorial demonstrates how the image on this page was created in *Photoshop*. The city image source file, which you'll find on the cover DVD, was fully rendered in a 3D program. We explain how to bring this into *Photoshop*, and how to use a number of layers to build up the final composition.

You'll discover the everyday working techniques of our Swedish *Photoshop* expert, Per Gustafson, who created this poster as one of a series called Modern City, which is available from **www.modernstyle.nu**. Creating a composition of this nature is all about experimentation, fantasy and development, so turn the page, and start having fun...

Expertise provided by Per Gustafson, founder of MODERNSTYLE.NU. He is also the founder of Swedish-based internet media company geidemark gustafson, and Creative Director of Sonic Nerve Clothing. Visit **www.modernstyle.nu** and **www.geidemarkgustafson.nu**.

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Modern City



Part 1: Creating glow effects

Import the source files, and add a glow to the main building...

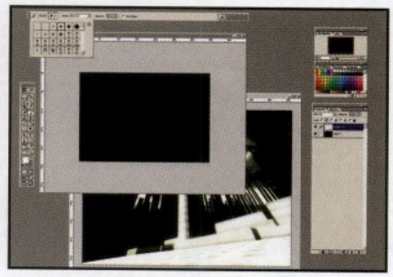
1 Start by opening the background image (sky.psd) and the city render (city.psd) from the DVD. The city was built in the 3D program *Lightwave*, without using any special plugins. It's been rendered out as a TIFF image, without a background. The background image is a landscape drawn in *Photoshop*.

2 Place the city image on to the sky background. Duplicate the city layer, and experiment with some layer effects to get the best out of the light and shadows. Here, we've chosen the Hard Light layer blending mode, to make some areas darker and some light areas even lighter.

3 The texture used on the 3D city render is pretty simple and plain, but you can add some extra glow to the front buildings. Use the Polygonal Lasso Tool to select areas you want to make glow.

4 Create a new layer, and fill the selected areas with white at 70% Opacity.

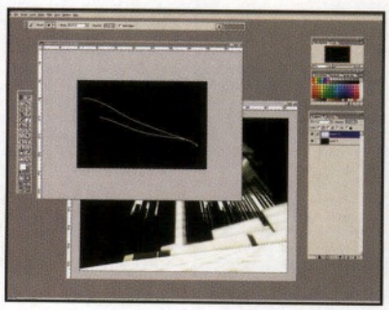
5 To create the glowing effect, use Filter > Blur > Gaussian Blur on the layer, and then adjust the level of the blur. If you think it's too weak, simply duplicate this layer to make the glow stronger; or, if there's too much glow, just play with the opacity of the layer.



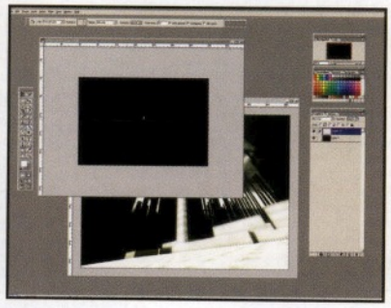
6 Now to the glowing lines in the sky. Create a new image, with a black background layer and a new layer for the lights. There are different ways of making these kinds of lights, one of which is to choose the right sort of brush with the Opacity set to 100%.

Part 2: Creating sky patterns

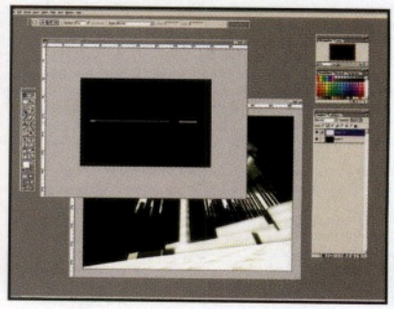
Draw a number of lines to add depth to the sky...



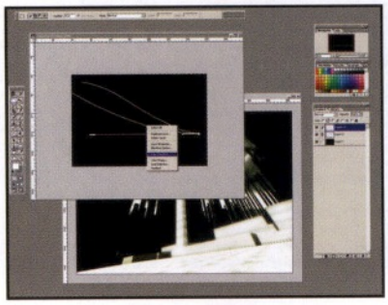
1 Draw the lines as you think they best fit in with the artwork. If you find this hard, just draw a dot, hold down Shift and then draw a dot where you want the line to end. This way you get a straight line, which you can twist later.



2 Another way of making this light pattern is to use the Rectangular Marquee Tool to draw a thicker line, and then fill it with white...



3 ...then select the areas with the same tool, and remove parts of it to make a pattern or create some depth.



4 You can also use the brush on a new layer to create even more lines. Then link the layers, so that you can control them both at the same time when you right-click (Ctrl+click) on the image and choose Free Transform.

5 Experiment with the Free Transform options to give the lines better depth and perspective. Free Transform can blur parts of the image, so be careful when using it, or remove blurred areas with the Eraser Tool. We've only used a little perspective transformation here.

6 Another technique to make these lines become more alive is to merge the two layers after transforming them, then duplicate this layer and add some blur effects on it. This also makes a glowing effect, which is particularly suited for the sky.

7 The lines you add to the sky give the image more depth. To make them fit better into the space, move them around using the Free Transform options. You can also use the Eraser Tool, with a low Opacity setting and a fairly large brush, to smear out the lines, and get them to melt into the sky.

8 Now you can add the 3D symbol statue.psd from the DVD. This basic abstract shape is used to add additional depth to the artwork. You can also experiment with other elements – here, we've adjusted the brightness and contrast, almost to the point where the statue becomes totally black, without any highlighted parts.

9 We need to do more to give the illusion yet more depth, so duplicate the layer, and resize the statues.

10 Add two rows of statues to create the impression of a wall. Use the Polygonal Lasso Tool to select the statues, then right-click (Ctrl-click), and choose Stroke. Choose the width of the line of statues. Do all this on a new layer called Line 1.

11 Duplicate this layer into as many lines as you want to have, and then use the Free Transform options to move and rotate the lines into the desired position.

12 Now add a smooth layer of colour to make a wall. Select the area you want to separate with the Polygonal Lasso Tool. Choose Fill rather than Stroke to fill the marked area with a colour – we've chosen an orange hue. Make sure this is a separate layer.

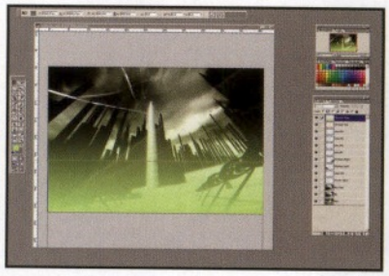
Part 3: Using colour

Introduce subtle shades to create a foggy feeling...

1 Set the blending mode of the wall layer to Soft Light, and erase some areas with the Eraser Tool set to a very low Opacity.

2 Create another layer half-filled with another colour. This layer will add to the foggy feeling of the artwork, and introduce another colour into the composition.

3 Apply the Motion Blur filter to this layer to smooth out the sharp contrast at the edge of the colour. It's a good idea to use the motion blur several times at a lower setting, rather than adding too much blur in the first instance.



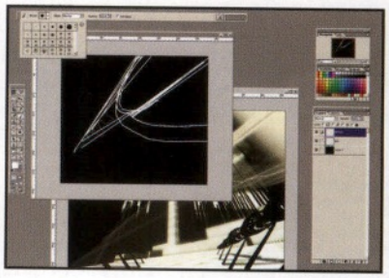
4 To make the transition even smoother, use Free Transform to scale the effect of this layer, then to stretch it and move it out of the image. This makes the top visible, and the layer pretty transparent, without having changed the opacity; this creates a very fine transition. It's advisable to crop the whole image here, so you cut off all parts of every layer outside the artwork.

5 Duplicate this layer, rotate it 180 degrees and move it to the top of the image. Then lower the opacity on both layers, so that the fog, lights and colours become smooth.

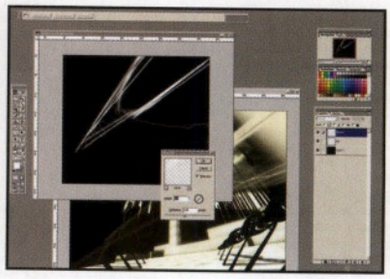
6 Now you can move on to the light and glowing effects. Start on a new document, but with the artwork and placement of the light in mind. Use the Pen Tool to draw the curves in which you want the light to appear.

Part 4: Adding blur

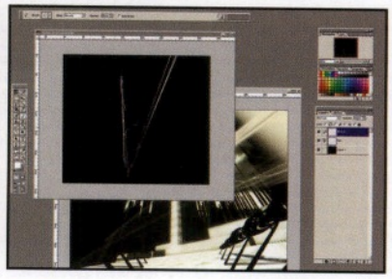
Play around with dramatic Motion Blur effects...



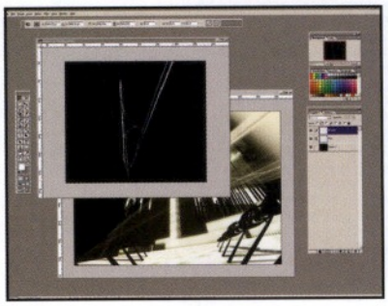
1 Now use varying sizes of brushes for thicker lines, with everything set to 100% Opacity. Make two layers for this – one for the Pen Tool and one for the Brush Tool – so that you can add different effects to each layer.



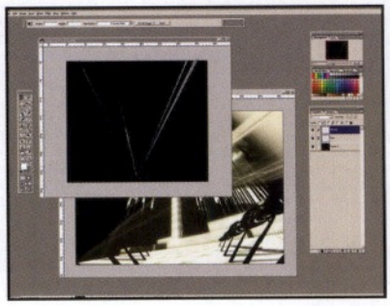
2 Start to play around with blur effects. Now you see why you needed to separate these layers, because if you added the same motion blur to both layers the pen lines would disappear, and the brush lines would get a smooth motion effect and foggy feeling.



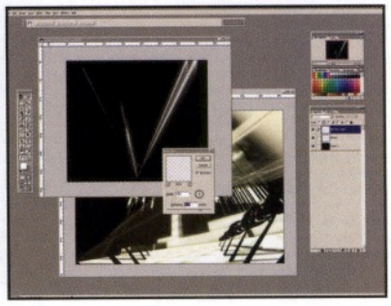
3 Another way of creating these kinds of lightning effects is to draw them with different sizes of the pen and brush in very straight lines. If you choose that method, you can make the correct placement of the light in the artwork later.



4 Before adding any filters, link the layers, and start using the Free Transform options.



5 To make these lines thinner and sharper, use the Perspective option. This enables you to create better depth and perspective.



6 Then merge the layers, duplicate them and add filters and effects. Once again, a blur effect is useful for making the lights more alive and glowing.

7 Now bring the light effects into the artwork. If you find that the effects are too weak, simply duplicate the layer until it's right for the composition, and then merge the light layers. You can still tweak it using Free Transform, and even add some more blur.

8 Next, add some details and lights to create a more lively sky. This time you can use the old Lines 1 layer, and simply duplicate it and then Free Transform it in the top-right corner of the image above the other layers.

9 Duplicate this layer a couple of times, and then transform and change the position of the lights until you get an interesting composition. Merge all these light layers. This is a part of the experiment, and one of the finishing touches to the artwork.

10 Another detail effect you can use for this image is particle glow. In a new layer, use a selection of different-sized brushes to create some dots around the lights. Duplicate this layer, and add blur on the new layer to get glowing particles. You can also play with the opacity of layers to get the desired effects.

11 You can increase the contrast to darken the sky and some areas. Add a layer filled with a dark colour, and experiment with the layer effects, the order of the layers and their opacity. Set the new layer to Multiply, and place it below the coloured wall and some light layers with a low opacity. This kind of layer makes it easier to control the light and brightness of the whole artwork.

12 The last thing to do is adjust the colours. We ended up with three posters as a result of this project, all in different colour schemes. You might prefer to merge all the layers, and then adjust colours using one layer and layer effects, but to get more variation, and add life to the composition, you should adjust it layer by layer.

3D
3D WITH STREET ART

Spray-can effects

2D and 3D images work well together if they're mixed correctly. **Ben Miners** shows you how to take a different approach to your 3D illustration, by mixing up original elements with Photoshop layers and Cinema 4D

By mixing 2D and 3D elements, it's possible to create an image so complex that it's virtually impossible to work out which program has been used to create it. The beauty of this technique is that no image will ever be the same – you can add original artwork and interesting layers that will give your work instant originality.

This tutorial will explain, step by step, how to create 2D spray-can effects and stencils, which will then be transferred into *Cinema 4D* as a background for a 3D composition. Only then will *Photoshop* be used to add the all-important finishing touches.

We'll demonstrate how some of the more traditional methods of image making can be used within a 3D program – and you'll learn how to successfully combine 2D with 3D to create unique designs and textures. Used correctly, 2D and 3D elements complement each other brilliantly, and the results are always far more interesting than an ordinary glossy render.

To start with, we'll take a look at how best to go about creating spray-can effects and stencils by hand, and then go through the process of photographing and transferring them into a *Cinema 4D* scene. From there you'll be shown how to make the most of lighting, textures and layering.

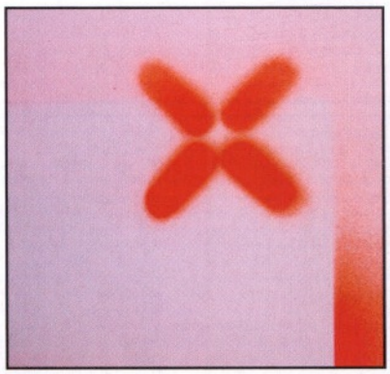
Finally, you'll use *Photoshop* to mix elements, create layers and add colour to your image. I hope this new approach and range of techniques will show you how to produce original, modern effects throughout your 3D illustration work. ■

Files on disc
DiscContent\Tutorials\Chapter3\Tutorials\Spray Can Effects

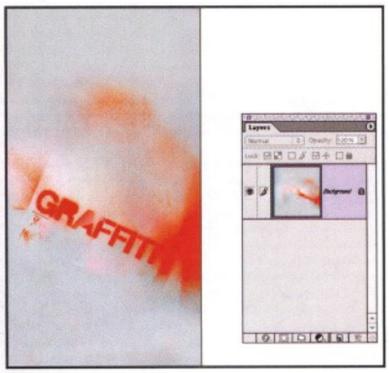
Creating 3D graffiti

1 I try to continually create textures to use across a range of projects; that way, I always have a constant supply of images to use at any time. Here, I've created a texture by building up acrylic and spray paint on foam board. This texture will be used later on in this tutorial, and is included on the DVD.

2 Once you've experimented with spray paint techniques, create some text and print it off. Next, cut out the text to create a stencil. By spraying around the text, you'll be able to create a silhouette effect, too. Experiment a little, as sometimes the mistakes you make create excellent effects.



3 Create more than one stencil effect, as then you'll have more choice once you start working in *Cinema 4D* and *Photoshop*. The image above shows the use of the spray stencil effect on one of the special characters of a custom font. These characters can be used to create abstract effects and shapes.



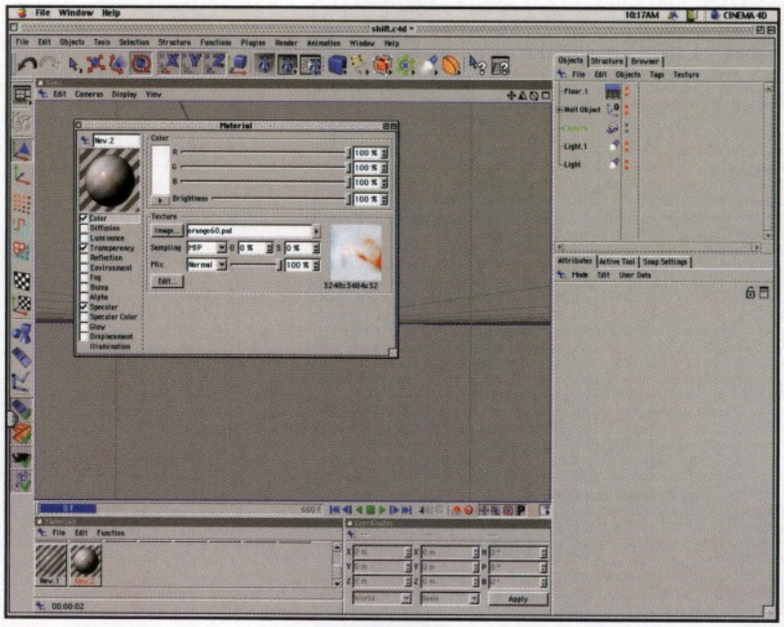
4 Once you're happy with your stencils and spray-can effects, photograph them, or scan them in. Using a digital camera can save time, but make sure the camera has a good close-up lens, and that you take a high-res picture. You could also enhance this image in *Photoshop* before you start. Two graffiti textures have been included on the DVD.

Illustration by Ben Miners www.graphikboutique.com

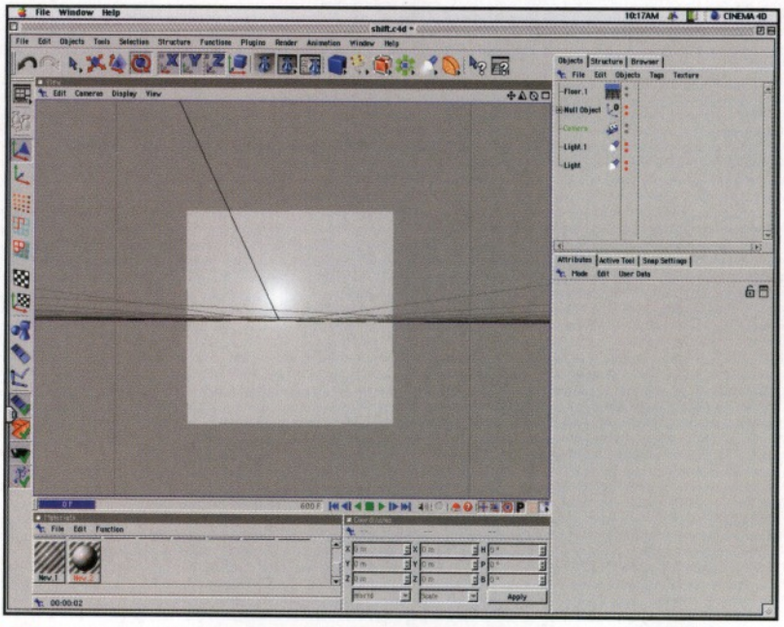
Creating 3D graffiti, continued...

Your materials

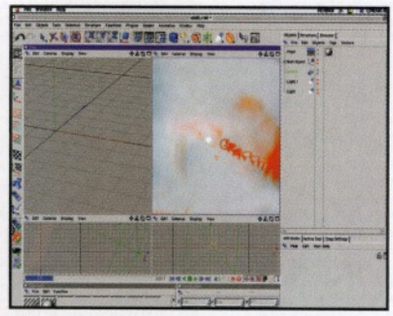
To get the best results from your spray-can effects it's important to use the best materials. Foam board is perfect for applying all kinds of paint to, as it has a gloss surface and so doesn't absorb the paint. Spray paint applied to some other surfaces looks dull, and the vibrancy of the colours doesn't show through. Car spray paints work well, and always maintain a strong colour. It's also worth remembering that you don't need to buy hundreds of paints, as you can change the paint colours to anything you want in *Photoshop*.



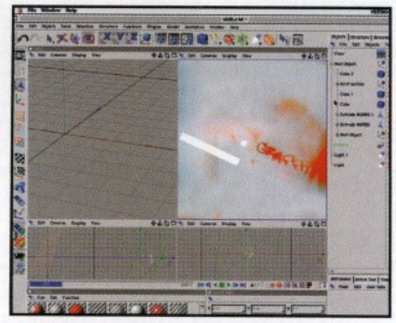
5 Open *Cinema 4D*. Choose File > New Material, and double-click on the new material. A window will appear, which will enable you to add a new texture. Click on the Color box on the left of the interface, and then click on Image to locate your new texture file. Use a Specular light (see 3dgraffiti.c4d on the DVD) to add reflection, and set the Transparency to 70%.



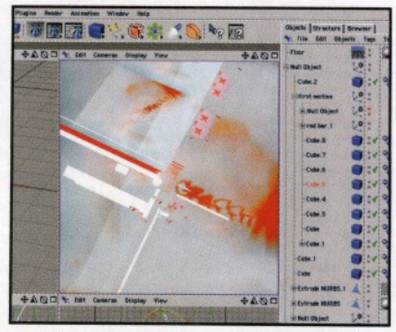
6 *Cinema 4D* has a tool called Floor, which is located with the lights and cameras at the top of the interface. Click on Floor, and a 3D floor will be added to your scene. This plane will act as a background/wall when you rotate it to a frontal view.



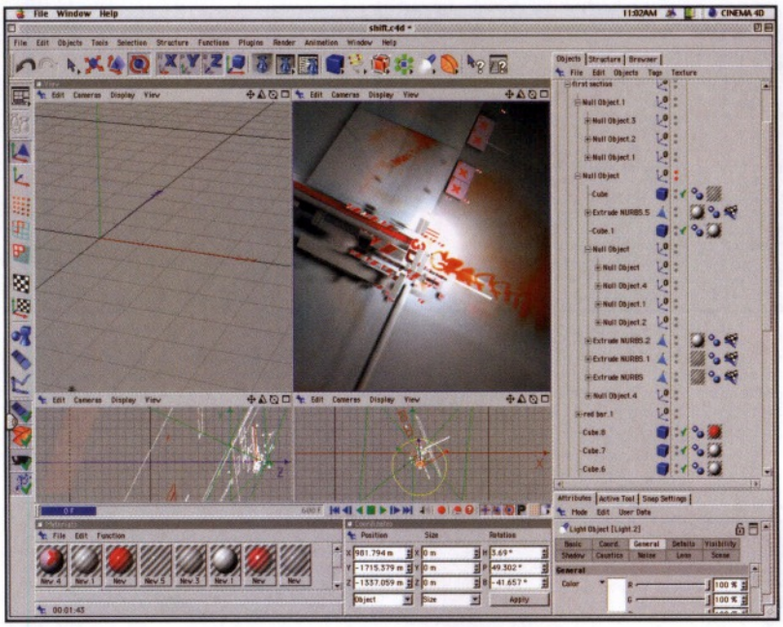
7 Assign one of your background textures to the floor plane, by dragging it into the scene. Set Texture Mapping to Frontal Projection; this will form your background. Don't just use the Background tool, as it won't be possible to change its position or angle.



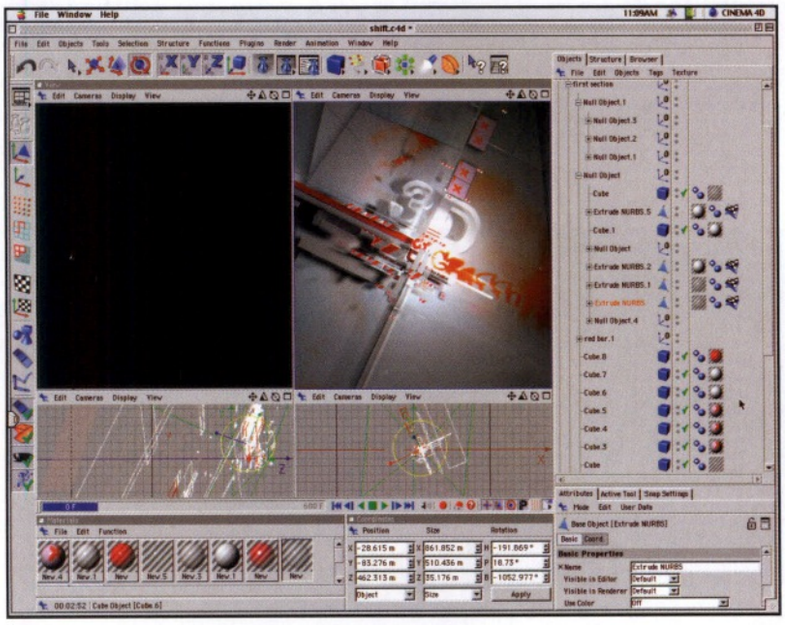
8 Now you can start to build up the 3D elements. Create a simple rectangular plane by clicking on the Objects menu at the top of the interface. You can assign various textures to this plane if you wish, but here it has been left white. Make sure that as you add objects to the scene, you place them in front of this floor – otherwise, unless the floor is transparent, the objects won't be seen. Try adding textures and transparencies to the shapes.



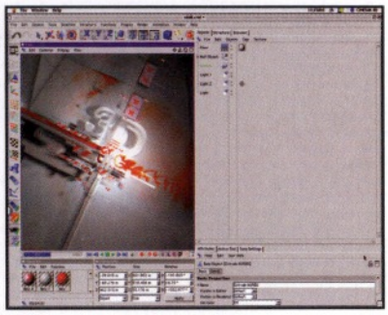
9 Add a few of the textures you made earlier to existing and new planes using the techniques you used in steps 7 and 8. It's important that you concentrate on building a strong composition. Use the angles and composition of the spray-can texture as a guide. Play around with the scale and depth of field to strengthen your composition.



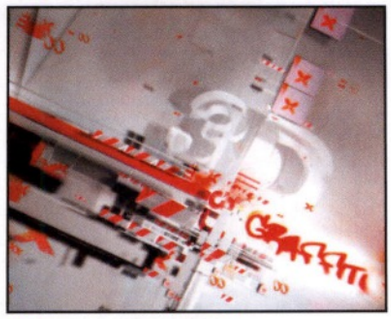
10 You can now start to add new light sources. Lighting is the key to successful 3D work. Add the main lights to the centre position (see 3dgraffiti.c4d for more details), and position a few smaller lights throughout the composition. You'll notice that interesting shadows will now be cast upon the background wall. You may want to try changing the colours of these shadows, too.



11 You can now place a main 3D element. Here, I've added a virtually transparent texture to some 3D type. Position the element, found in the 3dgraffiti.c4d file, in the spot where the main light source hits, so it absorbs the main focal light. Don't worry if the light isn't perfect, as you can enhance the colours in *Photoshop*. Double-click on the lights, and enter a Shadow Map of 500x500 to enhance the render.



12 Once you've confirmed the render settings, render the whole image out for use in *Photoshop*. It's possible to add further texture and spray-can effects to the background in *Photoshop* if you wish, as long as the main part is created in *Cinema 4D*. Just make sure that you avoid making the extra elements look as though they've been stuck on.



13 Bring in some of the stencils you made earlier, and add them to a new layer. Drag the files into the composition, and erase any unwanted parts with the Erase Tool. Double-click on one of the layers in the Layers palette, and adjust the layer blending options to merge the image layers. Use the Darken blending mode to make the image look like part of the layer underneath it.

14 Slowly start to build up the layers. This layer set was also created using Darken mode; often, I'll have used every blending mode in *Photoshop* by the time I've finished a piece. The more you experiment with blending modes, the more interesting results you'll be able to achieve.

Lighten up

If you're unfamiliar with *Cinema 4D*, and struggle to create the correct lighting, go and buy a well-lit model from **www.turbosquid.com**. Here you'll find a range of 3D models, created by professionals, for a range of 3D apps. It's worth buying a model and placing your own 3D object into the scene, removing the original and working out how your new object has now been lit.

Creating 3D graffiti, continued...

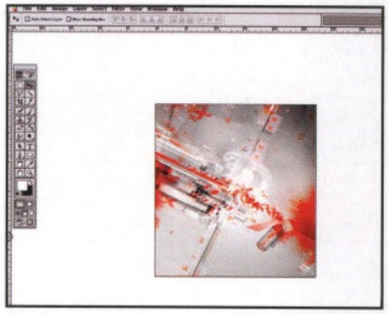
Render smarter

The rendering of a 3D scene can be extremely time-consuming, so it pays to use this time wisely. Do test renders at low resolution, so you can check how your effects are working, and optimise your rendering settings. Turn off anti-aliasing for test renders, as it slows the rendering process; you can turn it back on for the final render, for that 'finished' look.

15 Using the same techniques, you can now start to build more layers into your image. By adding new elements to the image, you can start to add real depth to your composition. Examples of these layers can be found within the 3dgraffiti.psd file on the DVD.

16 Here, I used a scan of sprayed lines of paint on foam board to create lines of paint splatter. This was then placed in the middle-right of the composition. You can use any texture you like here, but, once again, use blending modes to merge it subtly into the composition.

17 Create a spray can in *Cinema 4D*, or open the can provided on the DVD, and bring it into *Photoshop*. Cut it out with the Lasso Tool, and place it in the composition. Apply the Hard Light blending mode to the layer, and move it underneath several of the layers. Use the Pen Tool to add some white pencil lines, and lower the Opacity to around 40%.



18 Continue to build up the layers. For examples, take a look at the example file, 3dgraffiti.psd, on the DVD.

19 Use the graffiti stencil once again, placing it on the spray can itself by dragging the opened stencil file into the composition. By using the Luminosity blending mode you can give the stencil a highlighted greyscale effect. Ensure that you keep the Opacity low, at around 10-15%.

20 Create a new top layer, and fill it with solid red. Change the blending mode to Luminosity, and reduce the Opacity to around 30-40%. This will lift the red, and help to merge all the colours in the composition. You'll also notice that the bright white has been toned down.

21 Go to Layer > Flatten Image, and make any final adjustments. Up the contrast slightly by choosing Image > Adjustments, and make a few colour tweaks using the Color Balance option.

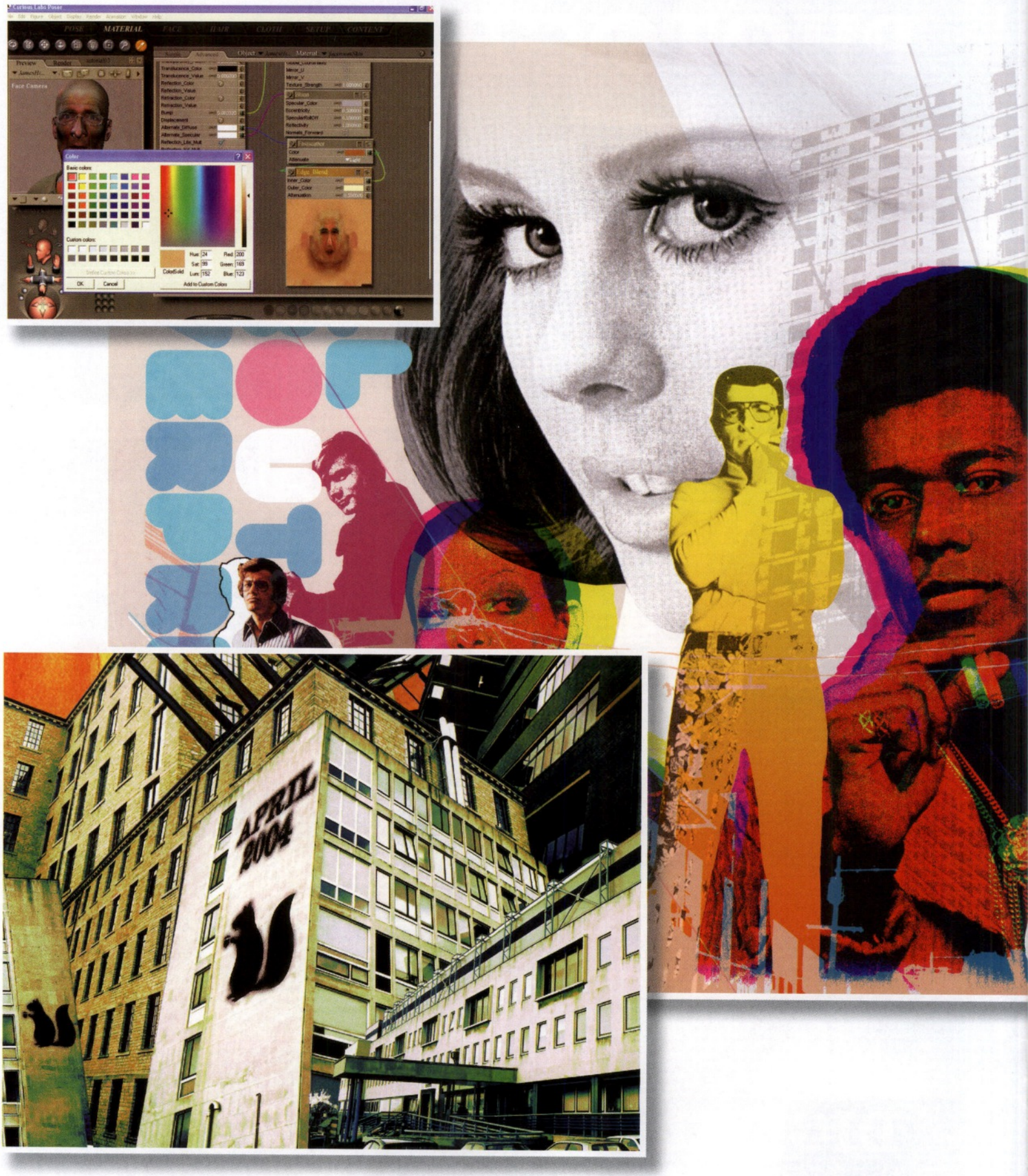
22 Take the flattened image and duplicate the layer. Change this layer's blending mode to Screen, and set the Opacity to 30%. Now apply the Motion Blur filter twice, once at 0 degrees and once at 90 degrees, with Distance set to 50 pixels each time, to slightly blur the image horizontally and vertically. These final steps will reduce the harshness of all of the lines in your piece. You can now experiment with new textures and light styles.

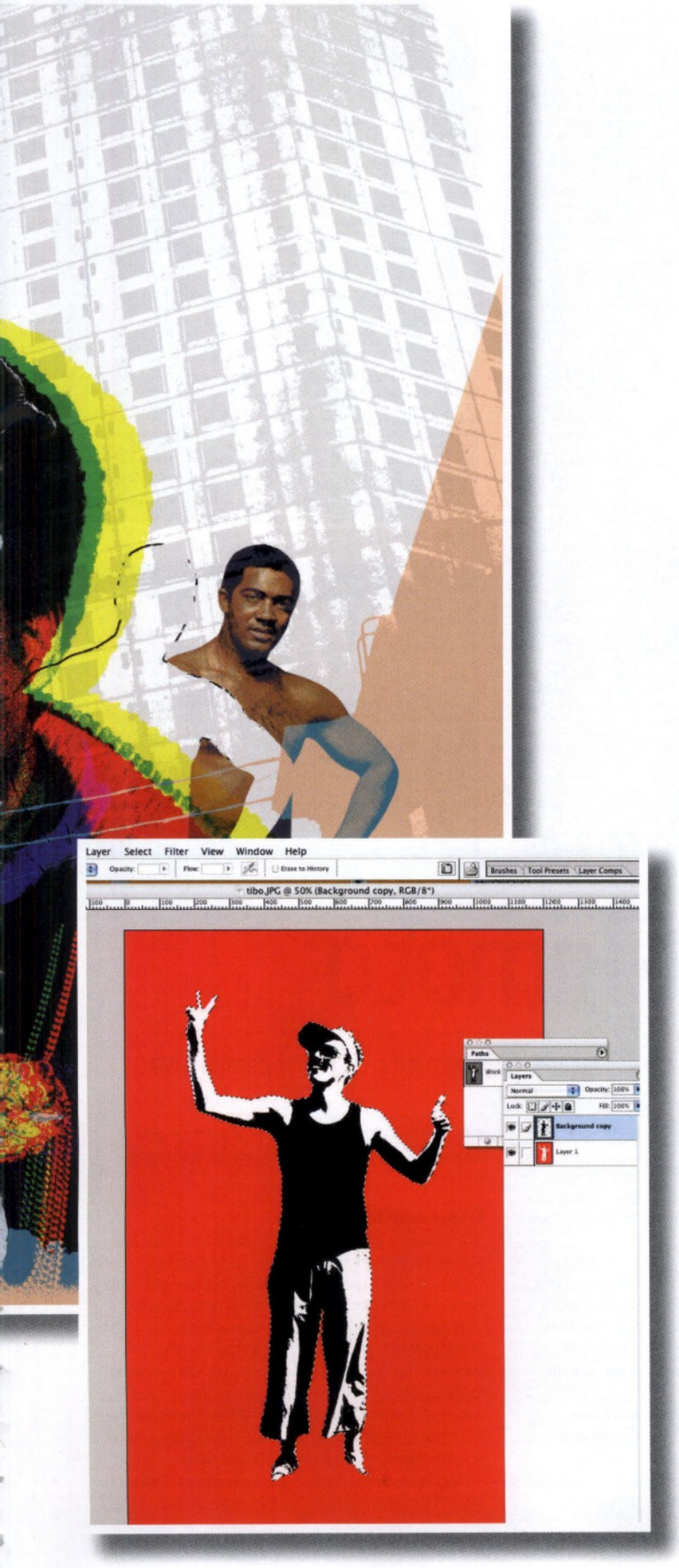
FIRST CHOICE FOR PHOTOGRAPHERS!

ANDY ROUSE ON SHOOTING WILDLIFE IN CAPTIVITY
Helping you create better photographs
Digital Camera magazine
October 2005
20 PAGES OF REVIEWS!
Nikon D70s vs Canon 20D
Best studio lighting kits
Pentax *ist DL
USING PERSPECTIVE TO CREATE PHOTOS WITH IMPACT
Capture autumn colour
GET READY FOR THE MOST EXCITING PHOTOGRAPHY SEASON OF YOUR LIFE
Where and when to capture Britain's boldest colour
Pro tips on shooting vivid landscapes and close-ups
How to push RAW files for vibrant results
MASTERCLASS: HOW TO CAPTURE THE PERFECT SUNSET
Helping you create better photographs
Digital Camera magazine
November 2005
NEW KIT ON TEST
Canon 350D vs Nikon 50D
Konica Minolta Dynax 5D
Noise-reduction software
JIM BRANDENBURG'S STUNNING IMAGES OF NATURE
Master Low lig photo
START TAKING AMAZING S
How to shoot cities, fairs ar
Essential techniques for low
Creative advice for painting
STRESS-FREE PHOTOSHOP HOW TO BOOST DYNAMIC RANGE
Helping you create better photographs
Digital Camera magazine
December 2005
FREE CD-ROM
NEW KIT ON TEST
Panasonic FZ30
Fuji 9MP super zoom
Affordable A4 printers
£600 SLR head-to-head
Shoot killer close-ups
START MAKING YOUR MACRO SHOTS STAND OUT FROM THE CROWD
Practical advice for frost, flowers, patterns and pets
Indoor and outdoor projects to improve your skills
The gear you need for razor-sharp results
Future

DIGITAL CAMERA MAGAZINE

Is the biggest and best title for photographers of all levels.
On sale now, or subscribe on **0870 4448464**


APRIL
2004

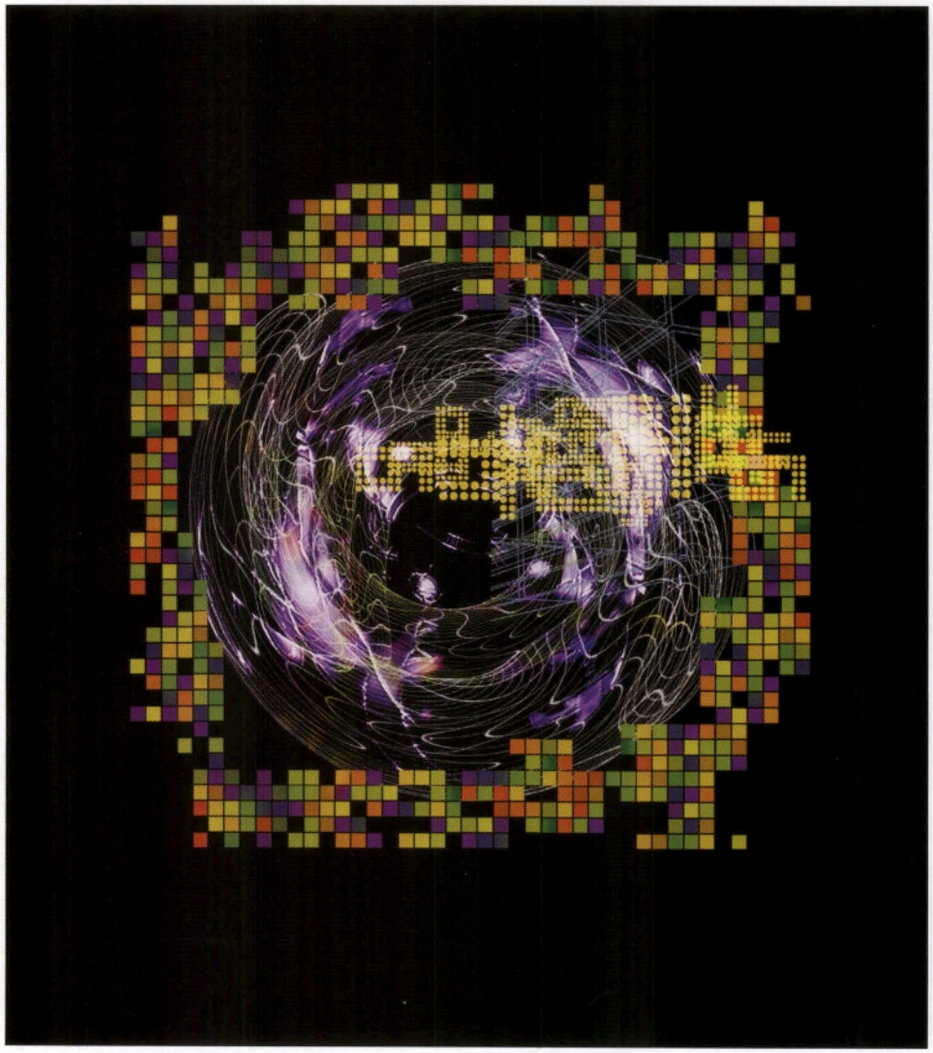


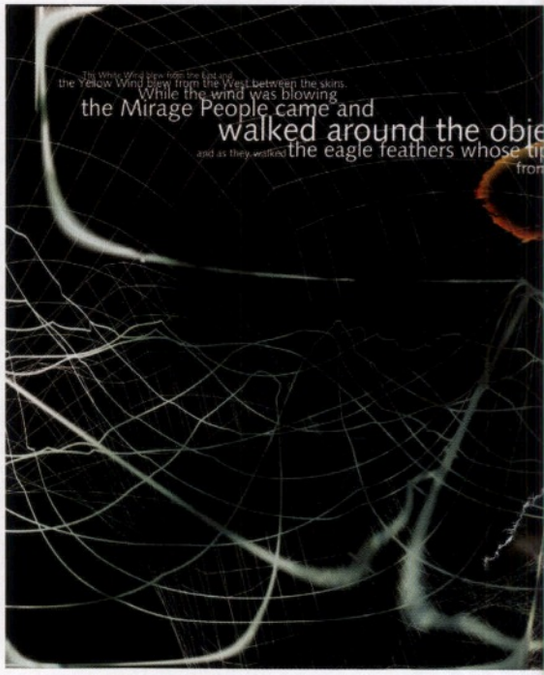
4

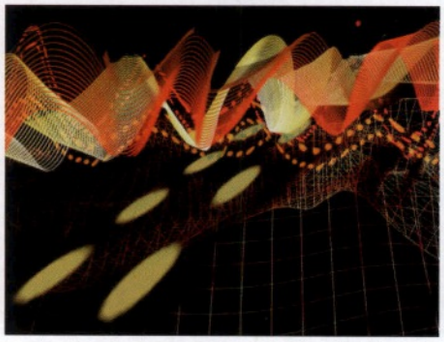
Flexible Photoshop

As well as being fully compatible with all the other elements of Adobe CS 2, Photoshop can add extra sparkle to art projects where other software suites are being used as the core productivity applications…

210	Profile: Fusako Akimoto
212	101 Photoshop tips
224	Get overprinting
230	Graffiti-style Flash
234	Graffiti vs Digital
238	Improve your figure: Photoshop & Poser 6
242	Photoshop in motion: working with AfterEffects




the Yellow Wind blew from the West between the skins.
While the wind was blowing
the Mirage People came and
walked around the obje
and as they walked the eagle feathers whose ti
from



Profile: Fusako Akimoto

"My work is about time and space, it's what I'm interested in most." Fusako Akimoto puts things in perspective

If you've been grappling with the big issues of science lately, the chances are that your reading material was accompanied by a Fusako Akimoto illustration. Akimoto produces images with a strong sense of the abstract, a handy trait when your work involves "abstract stories about the universe".

Just an illusion

Fusako discovered illustration while studying in Tokyo: "I took an illustration module as part of my graphic design course, and the tutor introduced me to pop art." That did the trick.

Thanks to the likes of David Hockney, before long illustration had taken over as Akimoto's primary creative outlet, so she decided that was what she wanted to do. She came to London, and took an MA in illustration at the Royal College.

While studying, Akimoto began to develop her style around a seemingly simple obsession with ideas of space and time: "I developed a technique using acetate," she explains. "I would take photos or find images, and colour copy them on to acetate, then make collages."

The final pieces developed Akimoto's interest in depth and perception. "The effect was unpredictable, and I liked that," she says. The unpredictable nature of the work continued when Akimoto began to work with projected images. "Unfortunately, acetate is expensive, so I was forced to look for other ways of working," she says.

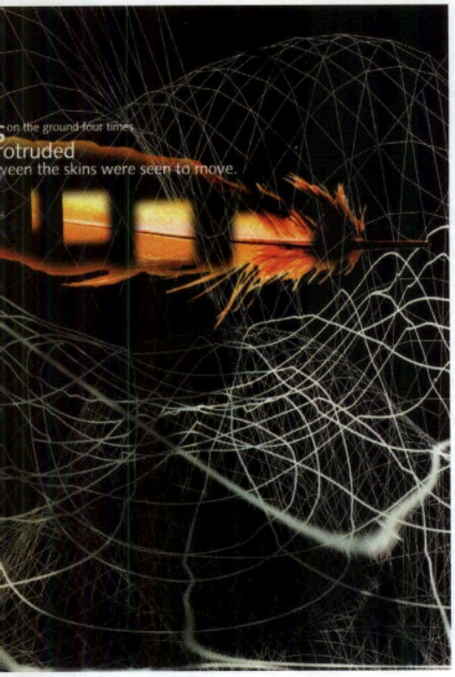
Having tried using overlaid slides to achieve similar results, Akimoto moved into a higher gear. She explains: "I did installations which involved projecting images through gauze." Again, the results of her projects were unpredictable – "it had the effect of disorienting your sense of depth" – and again they challenged our understanding of space and reality.

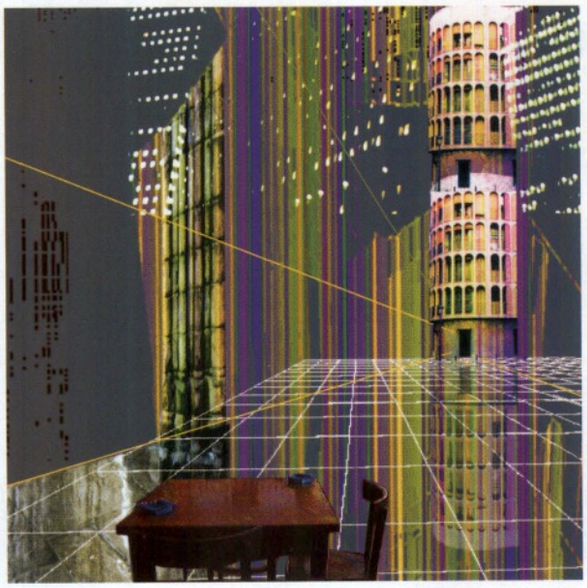
Other worlds

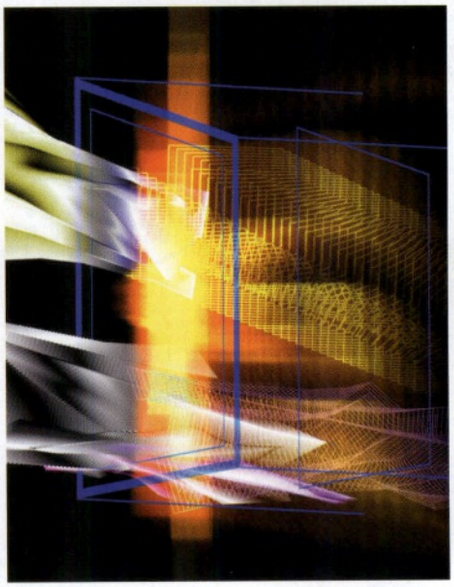
"My favourite jobs have been for *New Scientist*. They always have interesting articles," says Akimoto. Oddly enough, "The ones they'd get me involved with were the fairly abstract stories about the universe."

When the story involves the space–time continuum, Akimoto is ready with the visuals: "The concept of how to understand other worlds is difficult to illustrate, but I seem–well suited to that type of subject." Akimoto is being modest here, because her work doesn't just answer the brief, it feels like you're actually thinking about the subject at hand.

"It comes down to depth and space again," she says. "They give me quite simple explanations of the







Above, from left to right:

The author Gabriel Garcia Marquez is an influence for Akimoto. "The time in his books is very non-linear, I find that sort of thing fascinating," she says.

Combining 3D elements using *Photoshop's* layers, Akimoto generates the illusion of space which her work is so often about.

While studying graphic design in Tokyo, Akimoto became interested in pop art, the influence of artists such as David Hockney can still be detected in her work.

Currently doubling as a graphic designer for an international brand consultancy, Akimoto says this role is more rational, "The interesting thing is that you handle the project from start to finish."

Left: The neon depths which characterise Akimoto's work are in part the result of experiments with acetate conducted while studying illustration at the Royal College.

story and a few elements – I just expand on things from there." Akimoto takes the ideas for a walk, and just lets nature take its course.

"I graduated in 1993, and back then computers were just so unsophisticated and slow," says Akimoto. Coming from a traditional artistic background, her work had largely eschewed technology: "I had only touched on *Photoshop* when I left the Royal College. Even now I wouldn't say I'm good technically."

Akimoto had been exploring techniques mirrored in *Photoshop's* architecture while studying for her MA: "*Photoshop* can be similar to layering acetate," she explains. "I don't try to emulate that, but I always use lots of layers to get the kind of depth I'm looking for."

Her conversion to digital has been all but completed – "I don't sketch or anything, I usually go straight to the computer now" – but the accidental is still important. "I love it even when the program crashes, and you get the strangest stuff happening." This approach is extended to areas such as filters, which are used to create 'on-demand' accidents.

General theory

Akimoto sees a clear trade-off in popularity between photography and illustration. "When I was at college, photography was much cooler," she says. This could be deduced from the fact that "it was what all the tutors would be talking about".

But the pendulum has swung back the other way. It seems that illustration is coming of age, no longer dominated by the computer. "Illustration is definitely stronger now," says Akimoto. "It's interesting, because it's not totally digital. There are hand-drawn elements creeping in, it's much more human."

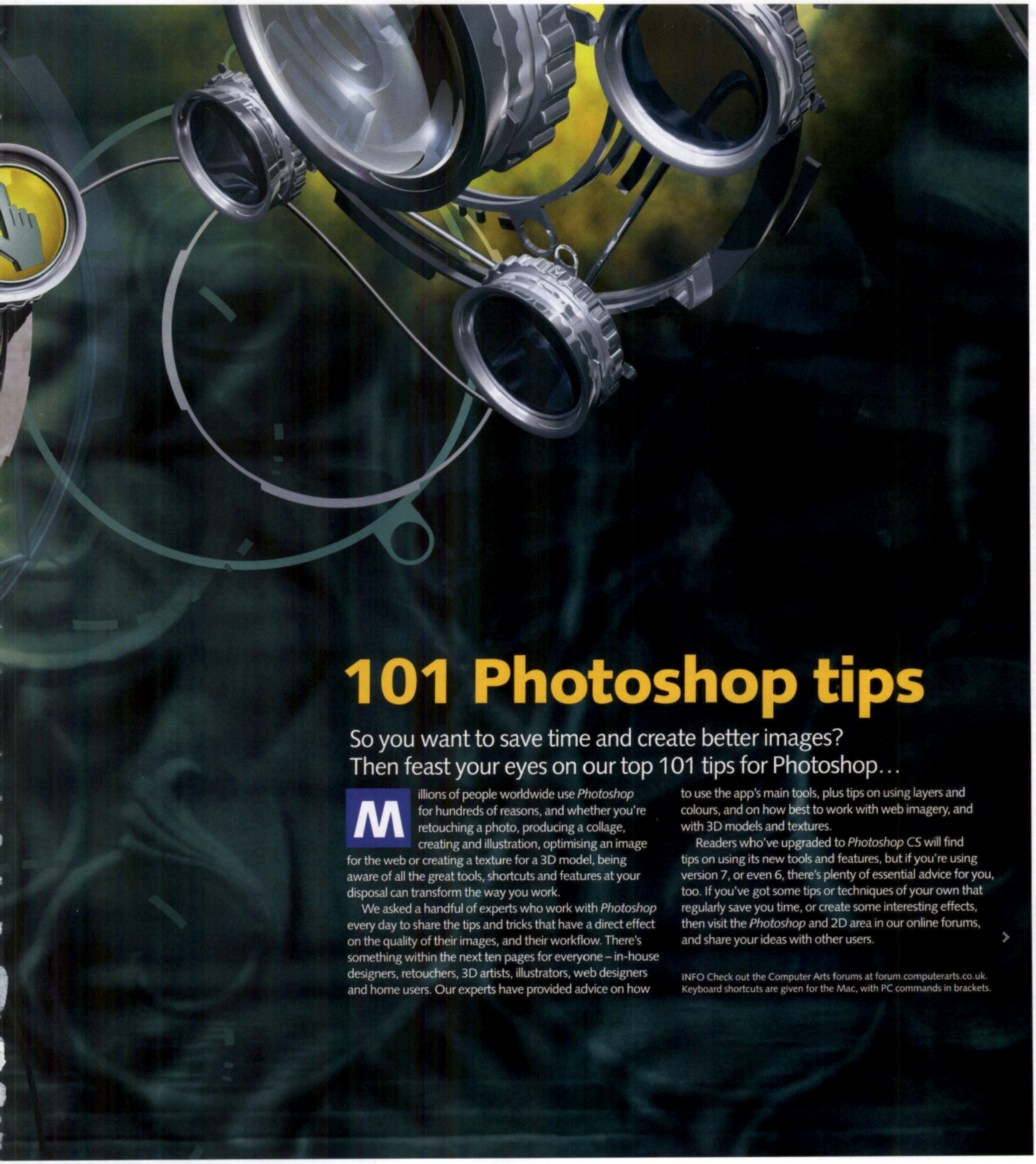
Fusako leads a bit of a double life, holding down a day job as a graphic designer for an international branding consultant, something she says is "much more rational".

The rationality stems from the scope of the role: "The interesting thing," says Akimoto, "is that you handle the project from start to finish. *You* take a much broader view." The illustrator is often peripheral to a job, often only getting involved in one section of a project. So working as a designer gives Akimoto a chance to see the other side of the fence.

Interestingly, this role involves commissioning other illustrators, something Akimoto enjoys. "It's fun to see them pushing the brief, to see how far they can take things," she says. It also, she admits, gives her some sympathy for those who've commissioned her in the past. ■

Fusako Akimoto can be contacted through Debut Art at **www.debutart.com**.

101
PHOTOSHOP
TIPS



101 Photoshop tips

So you want to save time and create better images? Then feast your eyes on our top 101 tips for Photoshop…

Millions of people worldwide use *Photoshop* for hundreds of reasons, and whether you're retouching a photo, producing a collage, creating and illustration, optimising an image for the web or creating a texture for a 3D model, being aware of all the great tools, shortcuts and features at your disposal can transform the way you work.

We asked a handful of experts who work with *Photoshop* every day to share the tips and tricks that have a direct effect on the quality of their images, and their workflow. There's something within the next ten pages for everyone – in-house designers, retouchers, 3D artists, illustrators, web designers and home users. Our experts have provided advice on how to use the app's main tools, plus tips on using layers and colours, and on how best to work with web imagery, and with 3D models and textures.

Readers who've upgraded to *Photoshop CS* will find tips on using its new tools and features, but if you're using version 7, or even 6, there's plenty of essential advice for you, too. If you've got some tips or techniques of your own that regularly save you time, or create some interesting effects, then visit the *Photoshop* and 2D area in our online forums, and share your ideas with other users.

INFO Check out the Computer Arts forums at forum.computerarts.co.uk. Keyboard shortcuts are given for the Mac, with PC commands in brackets.

Part 1 Tools and palettes

Photoshop's are accessed through the Toolbox. Although it looks similar to the Tools palette that shipped with the first versions of *Photoshop*, the modern Toolbox is considerably more advanced. If you click and hold on particular tool's compartment, a pop-up menu will display a list of the related tools housed therein – for example, several Bézier manipulation tools are housed with the Pen Tool.

Other than a new Color Replacement Tool, *Photoshop CS* didn't add much functionality. However, cast the net a little wider and you'll find improvements have been made to other features and palettes beyond the Toolbox.

A notable addition to the CS and CS2 Filter menu is the Filter Gallery, which enables you to apply multiple filters to an image in one operation, and preview the effect in a large window. And, along with new features such as Text on a path or Layer Comps, there are still the tried and trusted tools to help you produce amazing results with very little effort.

INFO Expertise provided by Jason Arber, designer, illustrator and co-founder of www.pixelsurgeon.com

6 ACTIONS

The Actions palette (Window > Actions) can take the drudgery out of repetitive tasks. You can record a series of commands and steps which can then be applied to a single file, or folder full of files, at the press of a button. You can turn just about every *Photoshop* command into an Action, including modal controls that let you insert values into a dialog box. Actions also form the basis for batch-processing files (File > Automate > Batch), and the creation of Droplets, small apps that can be saved from *Photoshop*, which perform batch operations on images dragged on to the relevant icon (File > Automate > Create Droplet). You can record and save Actions on a test file, or create them on a step-by-step basis by inserting menu commands into an Action; either way, Actions are one of *Photoshop's* most powerful features.

1 HISTORY PALETTE

The History palette (Window > History) is like the Undo command with bells on. This palette gives you the freedom to experiment, safe in the knowledge that you can retrace your steps if you take the wrong creative path. The number of steps is user-defined, and is limited only by the hard disk space available.

2 BLUR TOOL

The Blur Tool, housed with the Sharpen and Smudge tools in the Toolbox, is invaluable for smoothing out detail and softening the edges of artwork in layers. By adjusting the brush size and strength, it can be used on a photo to create the impression of a narrow depth of field – you can selectively blur focused areas of the image for a convincing effect.

3 VECTOR SHAPES

Vector shapes, accessed via the toolbox, are ideal when you want to create round-cornered rectangles with a specific radius, polygons and other assorted shapes. The real beauty of vector shapes is that you can scale them up or down without losing edge definition, because they remain vectors. They can be filled with colour, used as masks or have styles applied to them. A Custom Shape option is also available.

4 TEXT ON A PATH

There's now no need to use *Illustrator* to create text on a path, since *Photoshop CS* offers you this facility. Use the vector tools, such as the Pen Tool, to create a work path, then select the Text tool, position the baseline indicator over the path and click – you can now start typing. Text flows in the direction in which the points were created, but you can use the Direct Selection Tool or the Path Selection Tool to move text along the path, or flip it.

5 NAVIGATOR PALETTE

If you spend much of your time zoomed into your *Photoshop* documents, editing pixels and adjusting the fine detail, then the Navigator palette is the ideal way to move around your document as it combines scrolling and zooming functions. The palette contains a thumbnail of the whole document, with a coloured box indicating the currently zoomed area. Click and drag this box to move to a different part of your document, and choose from a range zoom options.

7 CREATING STYLES

Styles (Window > Styles) are combinations of layer effects, such as Bevel and Drop Shadow, which you can save and apply to objects in layers. The default styles that ship with *Photoshop*, and which appear in the Styles palette, are a mixed bag, but you can easily create your own styles by applying a variety of layer effects to a single object to generate the desired effect, then clicking the New Style icon at the foot of the Styles palette to create the new style. You can then rename the style, and use it on future projects.

8 REPLACING COLOURS

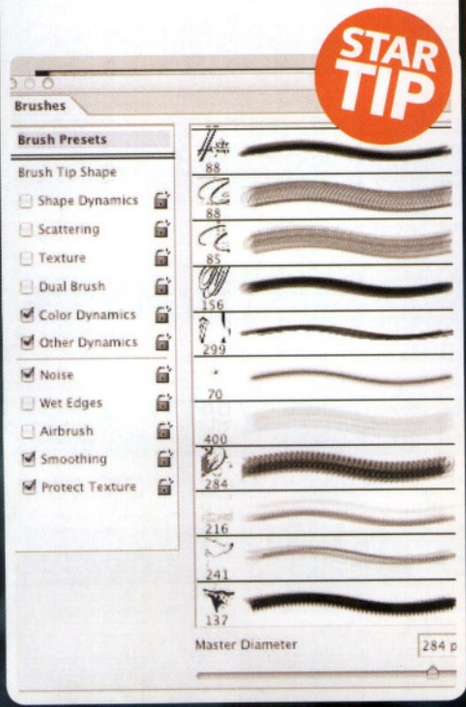
The one new significant addition to the *Photoshop CS* toolbox is the Color Replacement Tool. Grouped with the Healing Brush and Patch tools, it offers a great solution for changing the colour of part of your image quickly and interactively, without making selections or using *Photoshop's* standard colour-correction toolset. The tool automatically detects boundaries, and settings can be tweaked in the options bar.

9 TOOL PRESETS

You can save regularly used settings for any tool in the toolbox by creating a tool preset. For example, if you were designing a website that featured a lot of text set in 11pt Verdana with no anti-aliasing, you could create a Type tool preset that would save you having to manually select those settings each time. For each tool, set the features using the option bars, then from the Tool Preset picker's flyout menu, choose New Tool Preset.

10 CREATING BRUSHES

The Brushes palette (Window > Brushes) offers a wealth of control over selected brushes, and even enables you to create new brushes from scratch, via the palette menu or by editing the properties of existing brushes. At the bottom of the palette is a preview of the selected brush, which is updated dynamically as you edit the brush. Starting with a brush tip shape (which could be any image added via Edit > Define Brush Preset), you can alter the features of the brush, such as Noise, Scattering, Smoothness, Angle and Wet Edges. You can also save collections of brushes to load again at a later date, or share with other users.



11 THE LASSO TOOL

The Lasso Tool is a quick and easy way to make selections. The default tool enables you to draw a shape which then becomes a 'marching ants' selection. More interesting are the Polygonal Lasso Tool, which creates straight-edged selections, and the Magnetic Lasso Tool, which will snap to defined areas of the image, such as sharp changes in tone. This tool is great for quickly isolating an object from a plain background.

12 LAYER COMPS

New in *Photoshop CS,* Layer Comps are snapshots of the current state of the Layers palette, and enable you to save different combinations of layers within a single document. This can be handy for saving various design concepts to show a client without the need for saving different *Photoshop* documents. Click the New Layer Comp icon in the Layer Comps palette (Window > Layer Comps), and choose whether to save the visibility, position and appearance of the layers. Usefully, you can also annotate your Layer Comps.

13 UNSHARP MASK FILTER

Despite the name, which implies the very opposite of sharpness, *Photoshop's* Unsharp Mask filter (Filter > Sharpen > Unsharp Mask) is a vital weapon in every digital artist's arsenal. By locating pixels that differ in value from surrounding pixels by a specific value, you can increase contrast to sharpen your images.

14 SPONGE TOOL

The Sponge Tool is perfect for locally adjusting the saturation of colours in an image. The tool can increase or decrease the saturation of colour, depending on the settings that you specify in the options bar. You could use it to gradually remove the flush from the cheeks of a photographed model, for example, or make the eyes a more intense blue. In greyscale mode, the tool can be used to increase or decrease contrast.

15 LIQUIFY FILTER

The Liquify interface (Filter > Liquify) is a fun group of tools that enable you to push and pull an image around as if it was made of goo. Although it could be perceived as a sledgehammer set of filters with few practical uses, it's amazingly useful if you can restrain yourself, and use it subtly. It can give photographs the appearance of a watery surface, build abstract images and create the effect of glossy, metallic reflections.

16 ABSTRACT TEXTURES

The Clouds and Fibers filters, tucked away in the Render section of the Filters menu (Filter > Render), are handy methods of creating interesting, abstract textures from any image. As the names suggest, Clouds create the wispy effect of clouds, while Fibers creates fur-like or wood-grain textures. The filters take little information from the underlying image, using the resolution and foreground and background colours to control the effect.

17 INFO PALETTE

The Info palette (Window > Info) is a deceptively simple tool. It displays several values for the pixels under your cursor as you move it around an image. It can give you the RGB value of any pixel, together with the CMYK, LAB or Web Color value. If you're a designer working in print, it can give you a total ink percentage, so you can ensure your image doesn't exceed the total ink limit set by your printer.

18 MEDIAN FILTER

The Median filter (Filter > Noise > Median) is a rarely used filter that creates a unique blurring and flattening effect. The Median filter is located in the Noise submenu, because it reduces noise in an image by discarding pixels that differ too much from adjacent pixels and replacing them with median value pixels. The filter is great for creating a soft abstract feel, as shown above. Visually, the effect is similar in some ways to that of the Lens Blur filter.

19 TRANSFORM OPTIONS

If you've ever had to replace an image on a TV screen or poster in a photograph, then you'll really appreciate the benefits of the Transform commands – and, in particular, the Distort option (Edit > Transform > Distort). This enables you to distort the perspective of new image to match the perspective of the original image, by dragging the handles on the bounding box. Although the effect doesn't recreate the true perspective, it works perfectly in most cases.

20 ADD NOISE FILTER

The Add Noise filter (Filter > Noise > Add Noise) has many uses, but it's particularly good at solving two very practical problems. Blended images, especially when converted from RGB to CMYK, can exhibit banding of colour.To remove this, apply a small amount of Gaussian noise, which breaks up the banding, but preserves the detail. A second use is to create the impression of film grain, which is extremely useful when creating montages from a variety of sources. Digital imagery can appear too sharp when matted with a background scanned from a slide or negative, so use Gaussian noise again to even out the differences, and improve the composite.

Part 2 Illustration

Photoshop's beginnings may have been as a simple photo-manipulation tool, but now, thanks to nine increasingly powerful iterations, you can create staggering range of image styles from scratch, from pixel and vector art to 3D and more. Layers, brushes and filters are some of the illustrator's most-used tools, so here's a collection of tips aimed at improving your control of these essential features.

Shortcuts are a staple part of any graphics software, so getting to grips with some of the keyboard tricks below can save you precious minutes with menus. For *Photoshop CS* and *CS2* users, all the keyboard shortcuts are fully customisable, so if you don't like them, just reconfigure at your leisure – it's that simple.

Once you've got to grips with this batch of tips, why not test them out on the illustration tutorials featured in this handbook?

INFO Tips supplied by Tom Arthur Opasinski, digital artist and Adobe Certified Expert www.tom-arthur-opasinski.com

21 OUTSIDE COLOURS

Don't struggle with your light grey background colour (in full-screen mode on the Mac). Simply change it if it's too bright or too dark. Select the Paintbucket Tool (G/Shift + G), then choose a colour, and finally hold Shift and click on your background.

22 MOVING LAYERS

Move your layers around fast. To go up, use Command+] (Ctrl+]); to go down, use Command + [(Ctrl + [). This is a useful trick when you have to work with textures, because it involves never-ending layer rotation. It's great for trying new effects and getting inspiration.

23 COLOUR FILL

To fill layers/selections with foreground colour, use Option+Delete (Alt+Backspace). To fill with the background colour, use Command+Delete (Ctrl+Backspace) or open up the Fill dialog box, using Shift+Delete (Shift+Backspace), instead of using the Paintbucket Tool when colouring your artwork.

24 BRUSH CONTROL

To size your brushes up and down, press] or [respectively. To increase or decrease your brush softness, hit Shift+] or Shift+[respectively. For more options, press F5 to see the Brushes palette. When illustrating using the pen, it's also handy to use Shape Dynamics.

25 PERSONAL LIBRARY

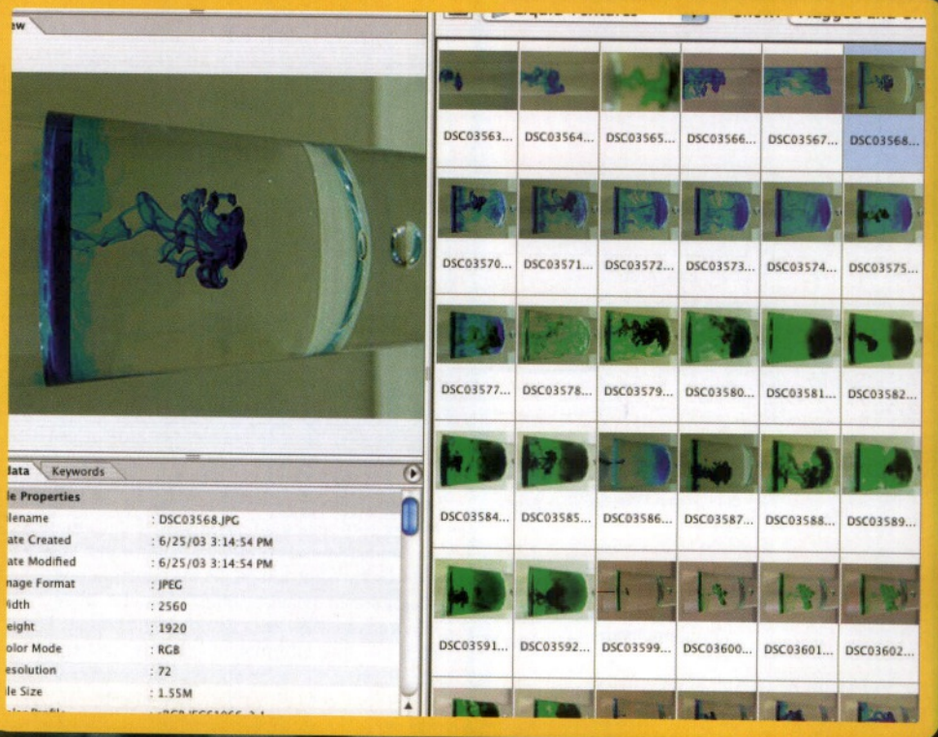
Create your own library of textures and elements by taking pictures of everything around you, such as trees, water, raindrops, asphalt or whatever. Later, you can use them in your projects in conjunction with blending modes, filters, adjustments, masking, and so on. Some textures can work wonderfully well with your illustrations, and they can save you time and money.

26 TIDY PALETTES

To organise your palettes more effectively, press Shift and drag, or press Shift and click (on titlebars) to snap them to the screen edge. If your monitor size is restricted, it's important to keep your working area clean and efficient – organise all palettes, and keep your drawing area clear. You can use the Tab key to turn off all palettes – when drawing long lines, for example. A second monitor could be a wise investment if space is proving too tight.

27 OPACITY WORKAROUND

Change the fill/flow setting when you can't change the opacity of a layer or layer set (because of layer effects, for example). To quickly set the fill or brush flow, type: Shift+1 for 10%, Shift+5 for 50%, and so on.

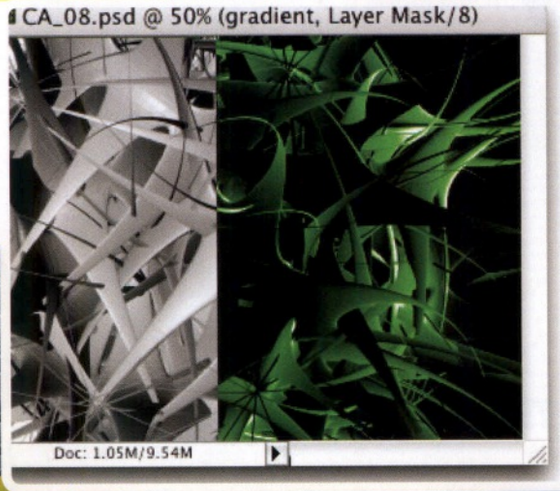


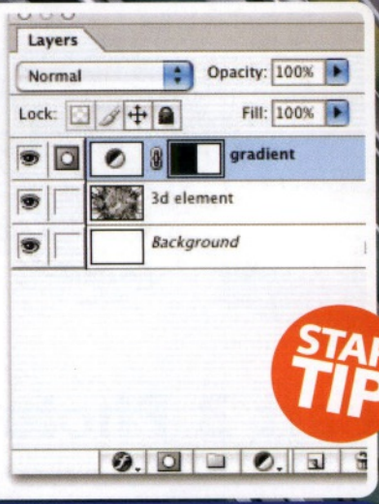
28 COMIC COLOURING

When colouring a greyscale picture, use Layer > New Adjustment Layer > Gradient Map instead of using a colour-filled layer or Color blending mode, then simply mask unwanted areas. This is useful when colouring comic-book art. A few gradients can give a colourful spectrum, and can be easily modified.

29 THROUGH THE LENS

Instead of Blur, use Filter > Blur > Lens Blur to achieve more realistic results. This filter becomes handy when an illustration requires more depth. In just a few seconds you can add a photographic depth to your backgrounds or very close foregrounds, and keep the focus point where you want it.





STAR TIP

30 MENU VIEWING

Do you miss your menu bar in full-screen mode? Just press Shift+F. It's useful if you don't know the shortcuts to many options, but want to keep a black background.

31 USER DISRUPTIONS

Save your workspace/palette locations when sharing your computer at home or work. Use Window > Workspace > Save Workspace. Every time somebody messes with your palettes, simply select your own workspace and you're ready to go.

32 QUICK EXIT

When you've finished working for the day, Close all open documents at once by holding Command+Option+W (Ctrl+Alt+W). Don't forget to save changes. Type S for Save, C for Cancel and D for Don't Save.

33 LINK TWO LAYERS

Group the active layer with the layer below by using Command+G (Ctrl+G). Subsequent adjustments will be applied only to this linked layer. To ungroup layers, press Command+Shift+G (Ctrl+Shift+G).

34 LASSO TRICKS

Using the Lasso Tool is a useful trick to draw any selection beyond your working space (canvas). Hold the Option (Alt) key to select something without having to move backwards and forwards between layers. To activate the Lasso Tool, simply hit L.

35 SOFT EDGES

Feather your selection edges by using Command+Option+D (Ctrl+Alt+D) to generate soft transitions between selected and unselected areas. You can also apply this effect to selections by going to Select > Feather, and choosing a Feather radius.

36 QUICK CAPS

Change all selected type to uppercase by using Command+Shift+K (Ctrl+Shift+K), to save you typing all those words again.

37 TEXTURES TIP

Change blending modes fast – use Shift++ (plus plus) or Shift+- (plus minus). These shortcuts work for the Brush Tool (B), and when various other tools are active. This is a great shortcut when you're working with textures.

38 TYPE SELECTION

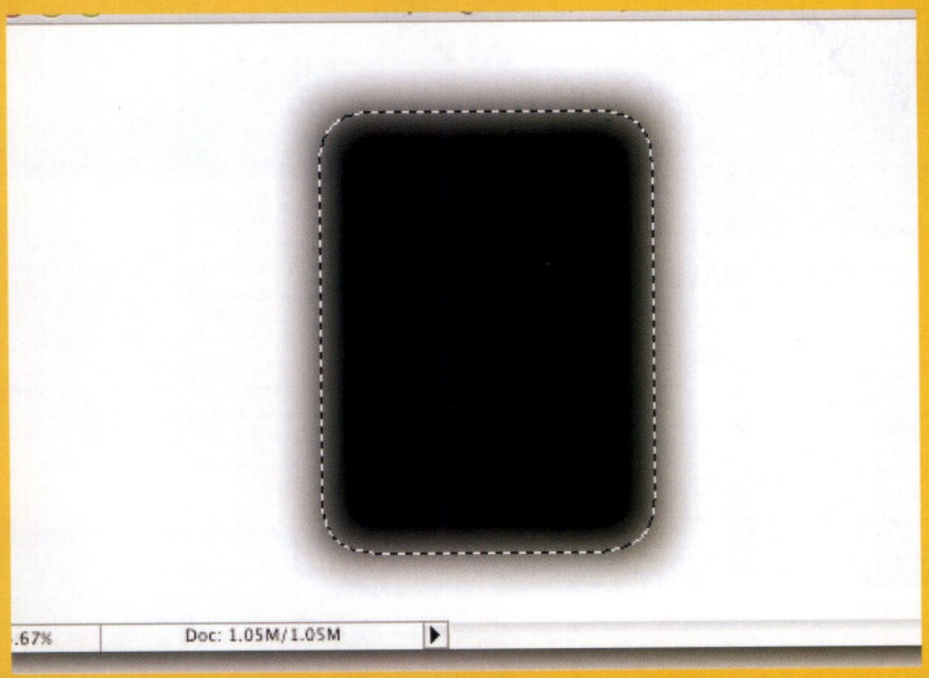
Hide the selection when type is selected by using Command+H (Ctrl+H). This is very useful when you're browsing fonts or working on kerning, for example. Conveniently, this shortcut works with all kinds of selections, too.

39 FAST MOVES

To toggle between open documents, use Ctrl+Tab (Ctrl+F6) and Ctrl+Shift+Tab (Ctrl+Shift+F6). You can access sketches, backgrounds and small elements in separate files with this handy shortcut.

40 CHECKING WEB BUTTONS

To flip between *Photoshop* and *ImageReady*, hit Command+Shift+M (Ctrl+Shift+M), go to File > Jump To, or click the button in the toolbox. This is useful when drawing navigation buttons and stylish menus – you can check right away how your design looks in a web browser.



Part 3 Photo manipulation

The digital camera boom of the last few years has brought with it a sudden desire for both enthusiasts and professional photographers to know more than just how to correct redeye or make the best of their digital zoom.

This could only be good news for the likes of Adobe, Jasc, Corel and ACD Systems – many improvements to *Photoshop, Elements*, Paint Shop Pro, PhotoPaint and Canvas have been aimed at these users. So open up those old holiday snaps on your hard drive that you've been meaning to clean up for months, and follow a few of the tips below. In addition to giving advice on colour-matching and improving skin tones, we preview the effects of filters, and provide some invaluable shortcuts.

INFO Tips supplied by Tom Arthur Opasinski, digital artist and Adobe Certified Expert www.tom-arthur-opasinski.com

41 ADDING WARMTH I

Create warmer-looking pictures, using *Photoshop CS's* Photo filter adjustment. Go to Layer > New Adjustment Layer > Photo Filter. Warming Filter 85 is a useful tool when you're working with skin tones, as it makes skin look more healthy. Usually, the Density setting for this adjustment layer stays somwhere between 5% and 15%. To exclude areas, mask them by painting on to the linked layer mask.

42 ADDING WARMTH II

You can also make warmer-looking pictures the old-school way – that is, before *Photoshop CS*. Create a new layer, and fill it with a golden orange colour: Edit > Fill > Use > Color. Then change the layer's blending mode to Overlay, using Layer > Layer Style > Blending Options > Blend Mode > Overlay. Set the opacity of this layer to between 5% and 15%.

43 SPEED DIALLING

A few useful fast tool-switching shortcuts can help you become more efficient – you'll wonder how you managed without them.

Move Tool	V
Brush Tool	B
Marquee Tool	M
Horizontal Type	T
Eraser Tool	E
Clone Stamp Tool	S
Gradient Tool	G

STAR TIP

44 NOISY LAYERS

What do 50% Grey Fill and the Noise filter have in common? They're both often used to add a 'noisy' layer. Create a new layer, and fill it with 50% Grey using Shift+Delete > Use: 50% Grey (Shift+Backspace > Use: 50% Grey). Go to Filter > Noise > Add Noise. Set Amount to between 3% to 6%, select Uniform and check Monochromatic; you can also try unchecking Monochromatic. Change the layer blending mode to Overlay – Option+Shift+O (Alt+Shift+O). Now almost every element below this layer will be affected.

45 COLOUR SWITCHING

A fast and simple way to switch the foreground and background colours is to hit X. Pressing D resets the colours to black and white – this is very useful when you're masking and unmasking.

46 COLOUR MATCHING

If want to add your friend's face to someone else's body, and you're having problems getting the skin tones to match, here's how to achieve a realistic look. Open the body picture, create a new layer, paste your friend's face into it and resize/rotate the layer if necessary. Go to Image > Adjustments > Match Color. Choose the source file – the body picture – and choose the layer from where the colour samples will be taken (mostly Background). Hit OK, and in most cases you're done with colour matching. Now you need to mask unwanted elements. You can also select an area of the source image from where you want *Photoshop* to sample colours.

47 BLUR OR SHARPEN?

When you're using the Blur and Sharpen tools [R], you can temporarily switch from one to the other by holding down the Option (Alt) key. This is a useful option when you're retouching faces, as some elements have to be blurred and some sharpened. Hair, lips and eyes each have different requirements.

48 HAIR MASKS

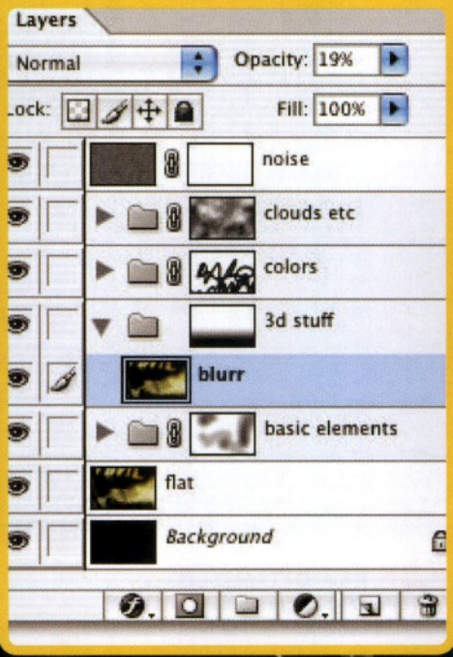
When masking hair, use a very small brush with Shape Dynamics enabled and Opacity set to between 5% and 10%. Press F5 to toggle the Brushes palette and change your settings.

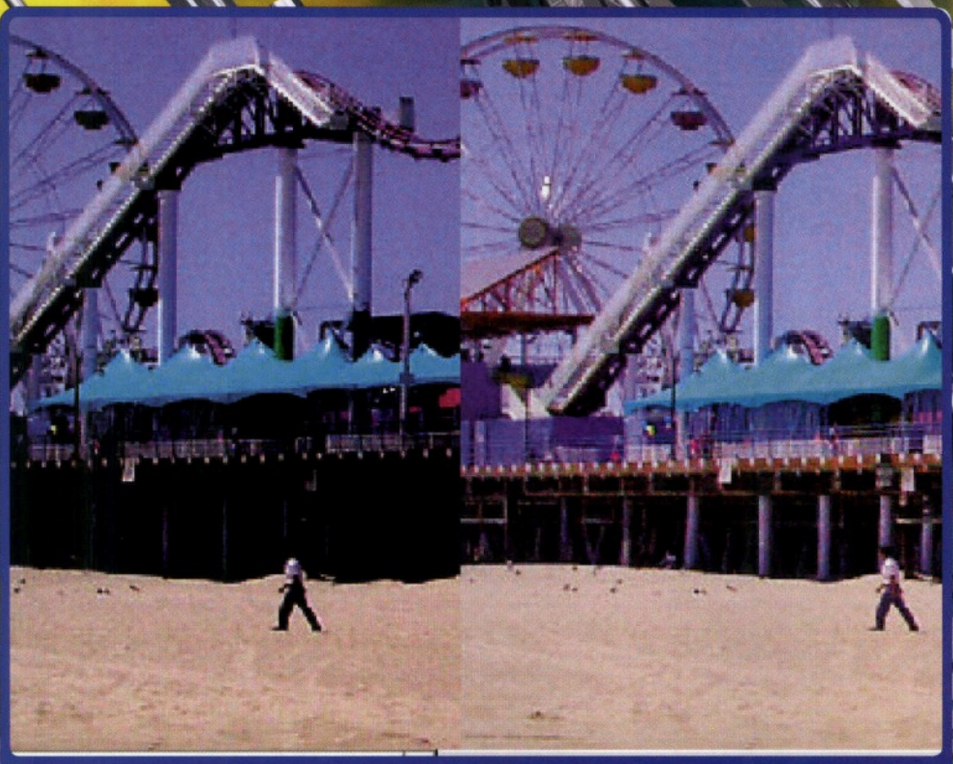
49 USE LAYER MASKS

You can use most of your filters (Sharpen, Blur, Noise, and so on) and adjustments (such as Levels and Curves) on a layer mask. Many people forget this, or don't realise that filtering a mask can save a lot of time and, importantly, that the original image stays untouched.

50 MASK LAYER SETS

Use masks on layer sets by clicking the Add a layer mask button at the foot of the Layers palette (hit F7 to toggle the palette). As with the layer mask tip (tip 49 above), you can apply many filters and adjustments.



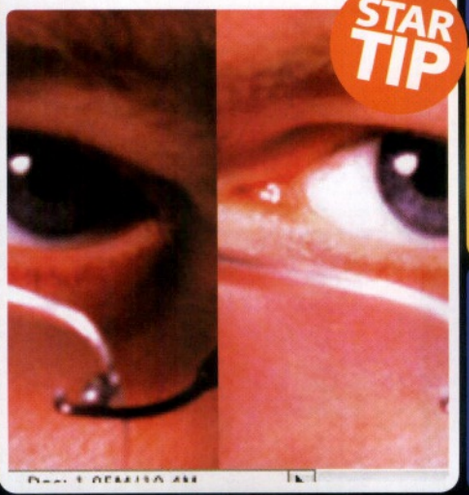


51 MERGING LAYERS

Merge all visible layers into one layer without having to flatten your image by using Command+Option+Shift+E (Ctrl+Alt+Shift+ E).

52 LIGHTENING FEATURES

To lighten the areas around the eyes, lips or nose, just paint white with large brush set to between 5% and 10% opacity, and set the layer blending mode to Overlay. You can use the Clone Stamp Tool to remove wrinkles, but this effect may give you a 'ray of light' on dark elements. This image shows an eye, overdone, to illustrate the technique.



STAR TIP

53 LIGHT AND SHADOW

Control the shadows and highlights in your work more effectively by using Image > Adjustments > Shadow/Highlight (*Photoshop CS* and *CS2*). Enable the Preview option for better control.

54 LAYER NAMING

Name your layers (double-click on the layer name). This makes it easier and faster to navigate in large or complicated projects, and simpler to select the correct layer by Ctrl+clicking (right-clicking) on the canvas. It's a good habit to get into, and will be appreciated by everybody who has to work with your files after you're done.

55 LOST IN LAYERS

Get into the habit of showing the only active layer by pressing Option (Alt) and clicking the eye icon. Click again to show all the layers. This will save you having to check and uncheck dozens of layers.

56 EMERGENCY

Use F12 (File > Revert) if something has gone drastically wrong with your masking, retouching or transforming – for example, if your History States, in Preferences, is set very low (perhaps at just 10 steps, to preserve memory), and you haven't taken snapshots in your History Palette.

57 VOICE-OVERS

Add voice notes to your PSD file by using the Audio Annotation Tool and a microphone. You can use these to pass on information to other people working on the file, and you can append the notes to particular layers, or particular parts of the image. Press Shift + N to toggle between the Audio Annotation Tool and the Notes Tool.

58 CLEAN UP

Make your files smaller, and save some memory for other operations, by using Edit > Purge from time to time.

59 BRUSH EXPERIMENTS

STAR TIP

You can quickly change the opacity of a layer or tool in multiples of 10% by typing 1 for 10%, 2 for 20%, and so on, and 0 for 100%. You can also type exact values. These shortcuts are a lot faster than continually returning to the options bar and dragging sliders.

60 FILTER PREVIEW

In *Photoshop CS* and *CS2*, a fast way to determine which filter is best for a job is to go to Filter > Filter Gallery, and preview all kinds of filters in one handy panel. Hit Return to apply the chosen filter. If you're a beginner, this option saves you a lot of time. If you've worked with *Photoshop* for a few years, it's yet another useful shortcut to speed up your workflow.

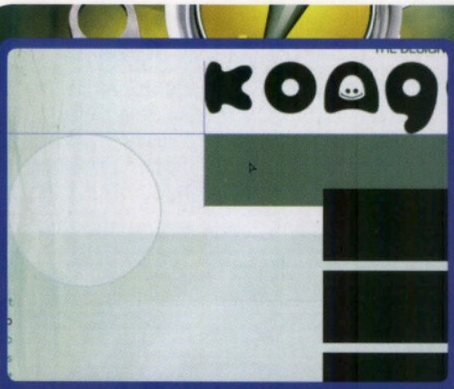
Part 4 For the web

Ever since the launch of *Photoshop 5.5* way back in 1999, when *ImageReady* was fully integrated with the app, Adobe's image-editor has been a key tool in the web designer's kit. The ability to effectively optimise and create web content directly from within the *Photoshop* environment has led to the program becoming indispensible for anyone creating content for the web.

Although some of the core features found in *ImageReady*, such as the essential Save for Web feature, have been incorporated in *Photoshop* itself, Adobe has maintained the distinction between its two complementary applications, so that, while the features can be accessed by those who need to use them, the interface hasn't become overly-complex and cluttered for regular graphic or print designers.

Photoshop CS and *CS2* boast a wide range of features for the web designer, making the creation and optimisation of web graphics easier and faster than ever. The following tips will give you an idea of what you can expect to find, and show how you can make use of these tools...

INFO Tips supplied by Chris Schmidt, web designer and journalist, www.track5.co.uk



67 SMART GUIDES

As you move objects around using *ImageReady*, you'll notice that 'intelligent' guide markings appear automatically on your work. These are very handy, as they help you position elements accurately against existing content. They're also useful for positioning content and designs that rely strongly on HTML tables, without you having to rely on complex guides that may detract from the overall layout. A 'ghost' image of the layer being moved will be displayed, so you can compare positions before applying the change.

61 SAVE FOR WEB

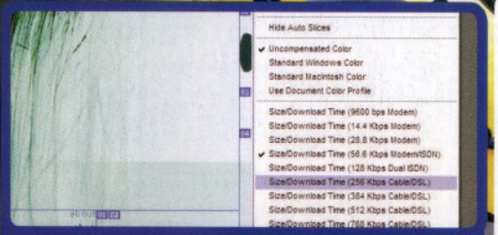
This popular feature remains largely unchanged in *Photoshop CS* and *CS2*, although it's now possible to jump straight into *ImageReady* directly from the Save for Web interface, via the relevant button at the foot of the dialog screen. This considerably improves your workflow, as any settings that you enter within the Save for Web dialog will automatically be transferred to *Photoshop's* sister application.

62 PRECISION SLICING

To accurately measure dimensions for your layout slices, which determine how your design is divided into its component graphics, make use of *Photoshop* by guides selecting View > Rulers, and dragging guides from the ruler. You can measure their position precisely by specifying dimensions using the Marquee Tool's options. Choosing Fixed Size from the Style menu enables you to specify the width and height dimensions of your marquee before snapping the guides and slices into place.

63 SELECTING OBJECTS

ImageReady now provides a more intuitive method for selecting content. With the Select Tool active, you can click directly on an object within your layout to activate the relevant layer. If you also hold down the Shift key, multiple objects become active. This might cause confusion if you're more familiar with *Photoshop's* methods, because you now need to click and drag directly on a layer's content before it can be moved; otherwise, you simply end up moving the layer beneath the cursor.


Hide Auto Slices
Uncompensated Color
Standard Windows Color
Standard Macintosh Color
Use Document Color Profile
Size/Download Time (9600 bps Modem)
Size/Download Time (14.4 Kbps Modem)
Size/Download Time (28.8 Kbps Modem)
Size/Download Time (56.6 Kbps Modem/ISDN)
Size/Download Time (128 Kbps Dual ISDN)
Size/Download Time (256 Kbps Cable/DSL)
Size/Download Time (384 Kbps Cable/DSL)
Size/Download Time (512 Kbps Cable/DSL)
Size/Download Time (768 Kbps Cable/DSL)

64 ANTICIPATING DOWNLOAD TIMES

Even with the rise in broadband connectivity, you need to be aware of how long your graphics will take to download at various connection speeds. Make use of the contextual menu within the Save for Web dialog to gauge this. You'll see the relevant figures displayed at the foot of the preview pane. You can also see a preview of the optimised results within the browser, by using the dropdown list at the foot of the interface.

65 EXPORT OPTIONS

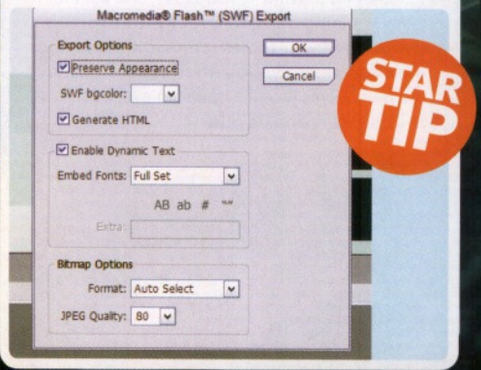
Exporting artwork from *ImageReady CS* (File > Export) is now much improved, with separate support for saving layers, animation frames and even data sets as individual files. Each option prompts its own particular dialog settings, making it easier for you to determine the preferences for the exported file, so you can optimise the output to best suit its intended target.

66 LOSE THE GUIDES

Once you've made changes in *ImageReady*, you may need to return to *Photoshop* to carry out further amendments. To remove slice markings and so on, simply use Command+H (Ctrl+H). To get rid of guides, use Command+; (Ctrl+;).

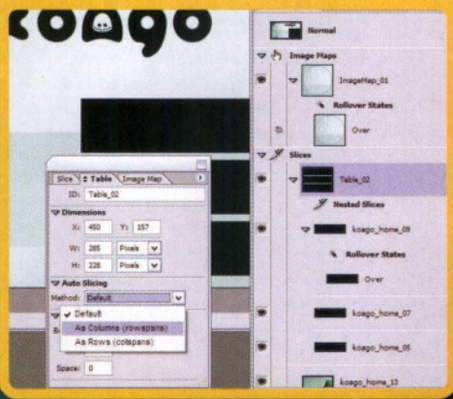
68 FLASHTASTIC

Another key export option that was introduced in *ImageReady CS* is for the *Macromedia Flash* SWF format. As *Flash* doesn't recognise native *Photoshop* PSD files, the only such artwork that can be introduced into the vector application is via QuickTime, which will automatically flatten the image. Using this export option, which is only found within *ImageReady*, you can now save your bitmap layout into a format that *Flash* can easily import, while retaining the independence of each of the layers that can be assigned as individual library symbols.



69 ELASTIC TABLES

ImageReady CS and *CS2* enable you to designate individual table cells, using absolute pixel or relative percentage dimensions. This means you can choose to create page layouts that expand or contract dynamically, depending on a user's browser dimensions, as well as specifying fixed dimensions for more precise layouts. Add to this the ability to determine whether slicing favours colspan or rowspan, and you start to see how creating base web pages directly from your image editor becomes much more efficient.



70 ENHANCED ACTIONS

Actions have long been a crucial component of both *Photoshop* and *ImageReady* for anyone needing to batch-process images, and the Insert Stop Action must be among the most often-used commands. *ImageReady CS* and *CS2* takes things one step further with the Insert Conditional command, which you can now use to determine whether specified criteria are met before an action continues. Expand an action from the Actions palette, and highlight the specific command where you want to insert the conditional, and select the command from the palette menu.

71 UNIFYING LAYERS

One overlooked feature in *ImageReady* are the Unify options, found in the Layers palette. Normally, you'll find any edits apply only to the frame or state currently active. However, by making use of the various Unify options, you can apply changes to, say, all states in a rollover and all frames of an animation.

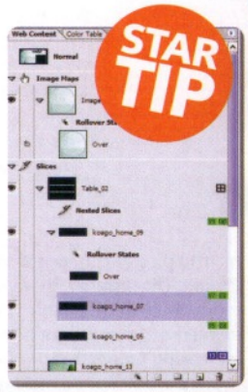
72 PALETTE SUBMENUS

Although most of *Photoshop's* and *ImageReady's* tools and features are available through the various palettes, or from the main menu bar, it can be all too easy to forget about the palette menus. At the top-right corner of every palette, you'll see a small arrow within a circle. Click this to expand a menu of more specific options relating to that particular palette – you may well discover a few options or commands that you didn't know about.

73 WEB CONTENT PALETTE

This palette within *ImageReady CS* and *CS2* makes it easier for you to create and edit interactive web content, such as rollover images and image maps. You'll soon find that it becomes as indispensable as your Layers palette, providing an overview of the individual components that make up your pages.

With a design sliced into individual graphic elements, you can use the palette to define actions such as links or rollover behaviours from a central point, as well as grouping related sections into nested tables. This way, you can start to experiment with the elastic table concept – within your layout, for example.



74 OPTIMISED VIEW

ImageReady can be compared to working within a much enhanced version of *Photoshop's* Save for Web feature, while having many of *Photoshop's* core tools and features at your disposal. Use the tabs at the head of the canvas to preview your work in real time, and compare the optimised imagery with the original.

75 MULTIPLE VIEWS

A feature of *ImageReady* that you may overlook if you're more familiar with working in *Photoshop* is the option to preview optimised variations on your original artwork. At the head of the canvas, you'll find tabs that enable you to view such variations, to give you a real-time display of how any changes you apply to your original artwork may be rendered in the optimised version. If your screen size permits, keep at least the 2-Up view open, so that you can anticipate any potential conversion problems from the outset.

76 BUTTONS AND TABS

Certain design elements are becoming ubiquitous on the web, and it's useful to be able to create such elements quickly. Creating the basic round-cornered button or tab shape may have previously required a little modification of the standard Shape Tool, but *ImageReady CS* now incorporates dedicated tools for just such a purpose, within the main toolbox.

77 ROLLOVER STATES

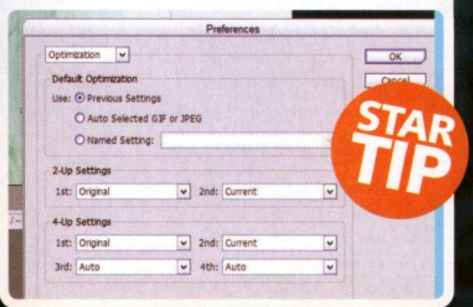
Thanks to *ImageReady's* Web Content palette, it now becomes much more intuitive to define imagery for use in a button's rollover state. With the state created in the palette, you can drag the icon to the left of the state layer on to the corresponding image to associate the action. It's an elegant solution.

78 BE SMART WITH SMART GUIDES

Image mapping is another *ImageReady* feature that's particular to the web designer, and isn't found within *Photoshop*. Image maps have long been supported by the title, although they now take on Smart Guide behaviours. However, if you're resizing a shape to match the layout design, be sure to drag the sides that correspond to the guides you hope to match the object to, as the active border will prompt the smart guides, and will help with your pinpoint placement.

79 SOFTWARE PREFERENCES

Just as *Photoshop's* Preferences dialog enables you to configure many useful options, so does the equivalent function within *ImageReady*. Don't assume, however, that the Preferences options in *ImageReady* will mirror those in *Photoshop*, as they provide important settings that enable you to best control the appearance of slices and image maps. For example, if you find you're distracted by the default numbers and symbols that are visible with created slices or image maps, then a quick trip to the Preferences will make things much clearer.



80 CTRL-CLICK

The act of Ctrl-clicking (right-clicking) on the canvas provides many more practical functions in *ImageReady* than in *Photoshop*. Different variations are available, depending on the selected tool. For example, you can quickly create layer-based slices and image maps with the Move Tool selected, or take full control over your text formatting through the Type Tool.

81 STAY INFORMED

To learn more about how you can use *Photoshop* and *ImageReady* to create web content, and to learn about the latest developments in the CS2 versions, check out the tutorials and features in Computer Arts magazine and Computer Arts Projects, as well as the Adobe Photoshop Focus Guide series. For more information, and to subscribe, visit **www.computerarts.co.uk** and **www.myfavouritemagazines.co.uk**.

Part 5 3D design

Photoshop isn't just limited to 2D illustration – it's a serious aid to the 3D artist, too. The Photomerge feature, which was introduced in *Photoshop CS*, can save you time when you're stitching panoramic images together by taking care of most of the back-breaking work, leaving you to do just a little cleaning up. Then there's the non-destructive Pixel Aspect Viewer feature, which enables you to view the image as it's meant to be seen on the target screen. This also saves you time, because you don't have to pipe the images/animation to the screen for testing. The program's dvanced colour correction tools, meanwhile, enable you to tweak your CG elements to match your background plate, increasing productivity.

Here are 20 tips on making the most of the *Photoshop* tools and features that will streamline your workflow and improve your images...

INFO Expertise provided by Pete Draper, 3D artist and animator www.xenomorphic.co.uk

82 AGEING THE IMAGE

The ability to load in filmstrips is a most underused feature in *Photoshop*. (*Premiere* can output frames as a filmstrip if your 3D package doesn't support it.) One great technique is to 'age' film by adding scratches to it, creating marks right down the strip to give the impression of decaying celluloid. Also, try dropping the levels of one channel in a vertical slice of the filmstrip to suggest weathering, or even use a grungy brush to suggest damaged film.

83 DEGRADING YOUR IMAGES

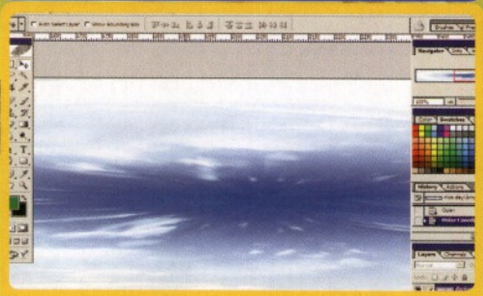
Unless you like your renders completely crisp, remove that CG feel by degrading the render a little. This can normally be done in post-production, in your 3D application, but *Photoshop* handles the job better. Double the size of the image, add a little Gaussian Blur to the render – 0.5 to 1 pixel should suffice, depending on the size of the image – and add a slight amount of Gaussian noise to break up any steep contrast, then bring the size back down to its original setting.

84 FIXING PANORAMIC EXPOSURES

If you've taken a panorama of, say, a cloud formation, and forgotten to lock the exposure while taking the image, all is not lost. By using the Match Color feature in *Photoshop CS* and *CS2* (or by tweaking the levels and/or brightness and contrast), you can quickly match up the exposure. For the best results, work in layers within one large canvas, rather than on separate images.

85 STITCHING PANORAMIC IMAGES TOGETHER

When you're creating panoramas, you can either position the individual iamges manually, and distort them to fit, or take advantage of the *CS/CS* Photomerge feature, which will overlap the images and stitch them together for you. However, this feature isn't perfect, and some fading between images may be apparent. You may, therefore, need to manually cut and paste some of the source images into the new (flattened) image to remove such fading.



86 REMOVING A CYLINDRICAL MAP PINCH

As you're likely to apply a panoramic image to a hemispherical object that encompasses the entire scene, you'd be wise to use cylindrical mapping; however, this creates a 'pinch' at the very top of the hemisphere. To remove this, apply the Polar Co-ordinates filter, set to Rectangular to Polar, and paint out the pinch in the middle of the resulting image. Finally, apply the filter again, this time set to Polar to Rectangular, to put the image back, and apply the resulting panorama to the hemisphere.

87 TILING A PANORAMIC IMAGE

To complete this kind of panorama, you need to tile your image horizontally to remove the seam where both sides meet up. To do this, use the Offset filter (Filter > Other > Offset) set to half the image size and 0 Vertical offset so that the edges of the image are centred. Next, paint out (and colour-correct if necessary) the seam using the Healing Brush Tool. Finally, offset the image back, using a negative amount, if desired.

88 GRAIN MATCHING

Currently, *Photoshop's* Grain filter options are limited to a few simple settings, such as Amount and Intensity. Chances are that the grain on the backplate you're trying to match is of a different size, and may have more red, blue or green. Therefore add a new layer (masked using the opacity of the CG layer) and fill it with a mid-grey. Change the layer blending mode to Overlay or Soft Light (some slight tinting will occur, which should be rectified) and apply the Film Grain (or Noise) filter at the right intensity. Now you can adjust the levels for the noise to make it more red, blue or green, and also resize it.

89 PHOTOSHOP AS A COMPOSITOR

If you don't have access to extra compositing software, such as *After Effects* or *Combustion*, you can use *Photoshop* as a poor man's compositor. The entire animation sequence can be composited by recording an action, ending with the image being flattened. Perform a test run on a different frame to ensure that all runs smoothly; if not, insert a stop or two in the action sequence so you can re-record the offending item. Finally, batch-process the entire sequence – not forgetting to output to a new folder, so as not to overwrite the originals.

90 COLOUR CORRECTION

In addition to compositing your animation on to backplates and adding foreground plates, *Photoshop* can be used to-colour correct an entire sequence, via simple colour replacement. By using the Color Replacement Tool, an entire sequence's colours can be amended, should the client change their mind about a colour scheme. You can also adjust the entire range, adding contrast and slight desaturation to match a background layer, record the process as an action, and apply it to the whole sequence.

91 RENDERING TO A SPECIFIC PRINT SIZE

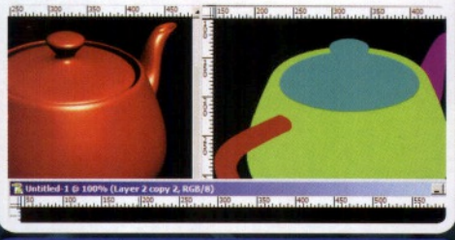
Even though many 3D applications will render out to 300dpi, getting the final pixel size for a specific print canvas is more difficult, as there is often no physical canvas size (in mm, for example). Therefore, create a blank canvas in *Photoshop* at 300dpi to the correct dimensions (including bleed, if necessary) and note down the width and height pixel settings to input into your 3D program. Even if you have to render out the image at 72dpi, you can still drop the image directly into the 300dpi canvas without any tweaking – simply copy and paste it straight in.

92 PIXEL ASPECT RATIOS

Photoshop CS and *CS2* includ the facility to display different pixel aspects. This is ideal if you're a 3D artist who renders for production. Although this feature is simply a temporary viewing tool (it's not saved with the image), it does give a good interpretation of what the final image will look like on-screen. This is ideal when using *Photoshop* as a compositor, as you can constantly check the final image output, instead of having to second-guess the result.

93 TOON AND EDGE EFFECTS

If your 3D application doesn't have a toon shader, you can create flat toon-shaded images by amending the image in *Photoshop*. Render out a standard shaded image from your 3D application and apply the Poster Edges filter. This works to a certain degree, but if you need finer detailed lines, render out another pass with alternating colours for each object, and set them to 100% self-illumination. Drop this render into your composite, set its layer blending type to Multiply and apply the Find Edges filter to 'draw out' the lines. Now desaturate the results.



94 CLEANING UP BAKED TEXTURES

If you have baked out textures for real-time 3D (or simply to save render time), you'll need to clean up some of the resulting textures to rid them of artefacts. The finer details of original (now baked) textures may be occluded, so rebuild these in *Photoshop* by working on a larger version of the baked texture, and resizing it down. Alternatively, bake out a larger version, amend as necessary and resize the tweaked textures to bring them down to a manageable size for the game engine to handle.

95 32-BIT TARGA PROBLEMS

Some 3D applications enable you to render-out 32-bit TGAs (images that contain an alpha channel), which makes for easy compositing. The problem is that *Photoshop 7* takes this 32-bit image, and makes the transparent alpha parts of the image completely transparent. The alpha channel is ditched, so if you've rendered on to a backplate (which isn't included in the alpha channel), this will be lost. Thankfully, Adobe rectified this problem in *Photoshop CS* – you can now render out 32-bit TGA files, instead of having to use a different format or render-off two images (a standard render and an 8-bit alpha image).

96 TEXTURE DEGRADATION

No surface is perfect. Depending on location and usage, surfaces become grimy and damaged over time – especially painted metal. To create a map to reflect this, set your brush's width setting to pressure (if you're using a Wacom or equivalent tablet) and add scratches, and use a large patterned brush to add large chips in paintwork. Export the resulting painted black and white mask as a bitmap, so that it can be used as a bump map in your 3D program, and it will control reflections and specularity (or simply mix two different materials together – one with your original, slightly dirtied surface, and the other with the bare worn-down metal).

97 REMOVING COLOUR TINTS

When using atmospheric effects such as fogging, or when using Global Illumination or faked GI, your render may be overly tinted. To rectify this, take the render into *Photoshop*, and adjust the levels a little to equal them out. Alternatively, apply an Auto Levels adjustment, and blend the effect in by selecting Fade Auto Levels, so that some of the original effect and contrast shines through. Alternatively, make a copy of the layer, apply Auto Levels to it and adjust its transparency.

98 SPECULAR BLOOM

You can add specular bloom as a post effect, again completely automating the process by using an action, by duplicating the layer, changing its blending mode to Screen, clamping off the levels of the layer copy so you have a harsh transition from dark to light (with very little light visible), and blurring the result. Depending on the result, you may want to drop the opacity of the layer a little.

99 16-BIT IMAGE HANDLING

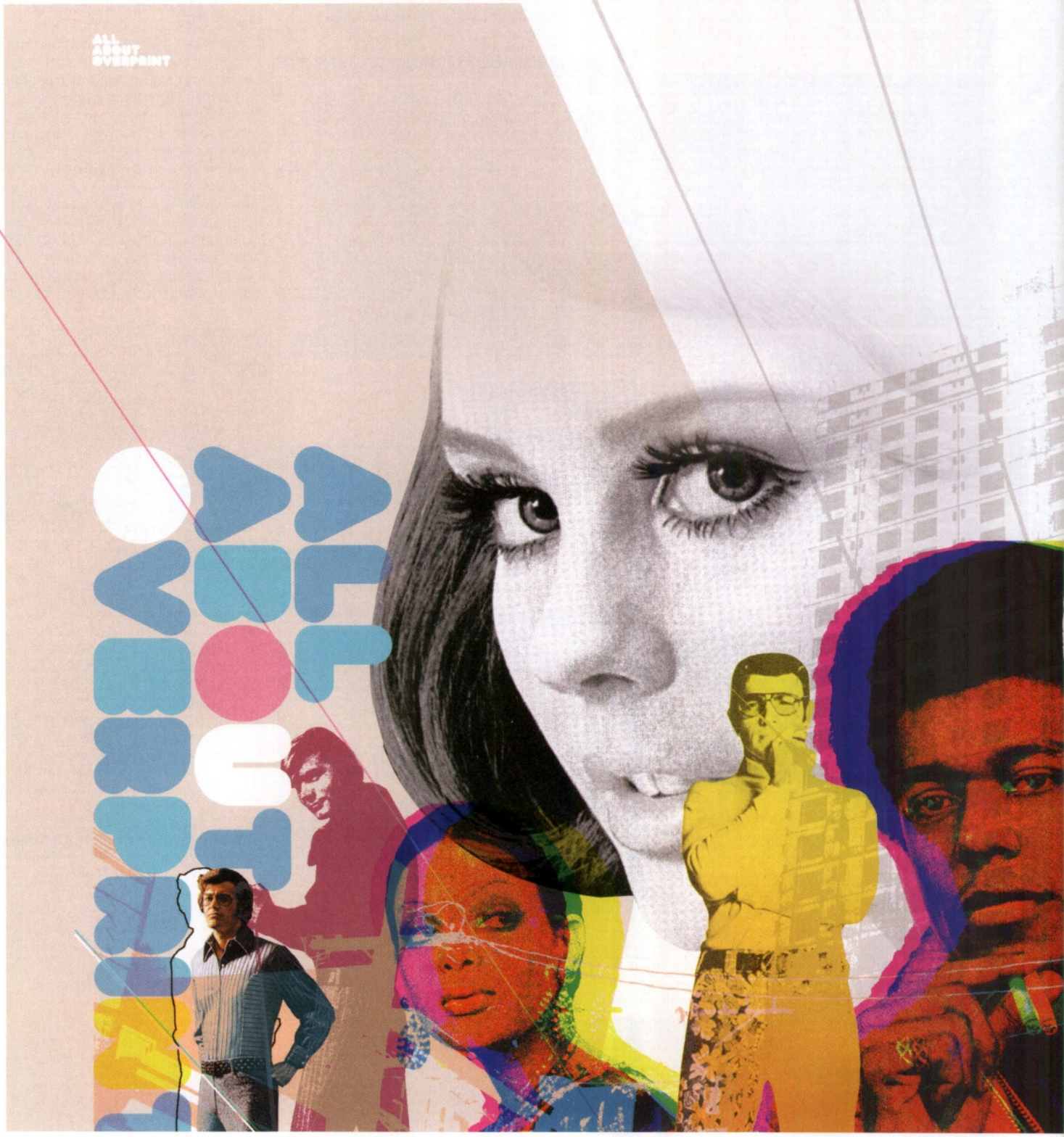
It's been possible to render-out 16-bit images for some time, but only now can you play around with them properly in *Photoshop*. Thanks to the high number of colours available, you can get better levels, and less banding artefacts, when performing colour adjustments for print-resolution images.

100 DEPTH OF FIELD EFFECTS

Create attractive depth-of-field effects on your renders by duplicating the original image several times and applying varying degrees of Gaussian Blur to each layer, ranging from, say, 30 to 1. Halve each Gaussian Blur setting (ie. 30, 15, 7.5). Finally, add a gradient layer mask to each blurred layer, so that the less-blurred layers are more opaque in the foreground. The best way to arrange these layers would be with the most blurred at the bottom of the layer set, and the least blurred at the top, so you have an overlaid effect which also gives you more control when designing the layer masks. If you have *CS* or *CS2* you could try using the Lens Blur filter.

101 FISH-EYE LENS EFFECTS

Open the image that you want to distort, duplicate it, then create a white to black Radial Gradient from the centre of the image (white) to beyond the edges of the canvas (black), so that the edge colours are a mid-to-dark grey. Save this duplicate as a PSD file, and apply the Distort > Glass filter. Load the saved PSD file into this filter as a texture with which to distort the image and, ensuring that the scaling is on 100%, crank up the Distortion. You may need to apply the filter another couple of times, depending on the size of your image.


ALL
ABOUT
OVERPRINT

Get overprinting

By using basic overprinting techniques within your illustration and design work you can easily create stunning translucent ink effects. **Martin Fewell** explains how overprinting works, and how to use it to the best effect

Because overprint effects happen during the printing process, and not when you're actually working in *Illustrator*, they have the ability to add a unique sense of craft to your work. Well-executed overprint techniques tempt the viewer to pick up an image and examine it closely, tilting it against the light as you would with a well- executed spot UV.

Throughout this tutorial you'll learn the basic skills and techniques you need to add overprint effects to your work. We'll then reveal a range of ways to use the process to excellent effect, starting with photographs and scanned imagery, and building up to the multi-layered composition on the left. You'll then be able to transfer these techniques to any project you're working on.

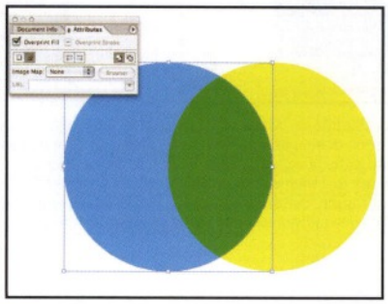
The most important thing to understand about overprinting is the way that colours mix together. For example, if you take a blue circle and place a yellow circle set to Overprint over half of it you'll produce a green colour where the two colours meet. It's useful to think of your inks as sheets of coloured acetate placed on a projector – that way it's easier to picture the effect your colour mixing will have. Once you understand that process, you can easily explore the use of overprinting through trial and error in your own work.

For this tutorial illustration overprint techniques have been used to create a striking, multi-layered image with plenty of depth. So gather together some images of your own – scans and photographs – and follow this tutorial to find out exactly how these effects were achieved.

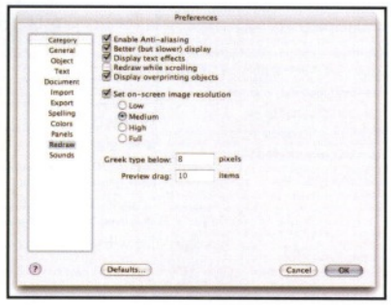
Files on disc
DiscContent\Tutorials\Chapter4\Tutorials\Get overprinting

Illustration by Martin Fewell www.martinfewell.com

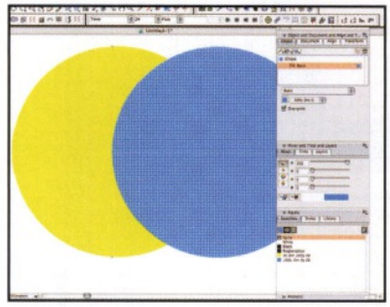
Creating overprint effects



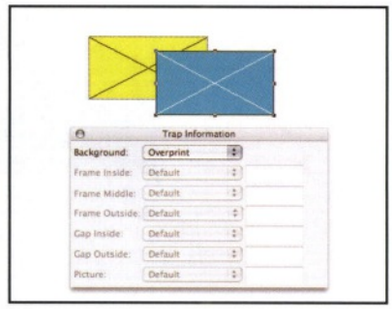
1 Overprinting is a really easy process. Start by opening *Illustrator* and selecting an object that you wish to overprint. Now select Window > Attributes to open the Attributes palette, and choose to overprint either the Fill, Stroke or both. You'll now be able to preview the overprint effect straight away by choosing View > Overprint Preview.



2 This tutorial uses *Illustrator* to create overprint effects, but the process is just as easy if you're working in *Freehand*. First go to the *Freehand* Preferences, and select Redraw from the list that appears. Check the Display overprinting objects box, and press OK to set it.



3 Now select the object to be overprinted, open the Object palette and set the fill or stroke as Overprint. *Freehand* doesn't have the same preview feature as *Illustrator*. Instead, *Freehand* displays overprint with a pattern of zeros on the objects. This will help you to spot anything that's been set to overprint by mistake.



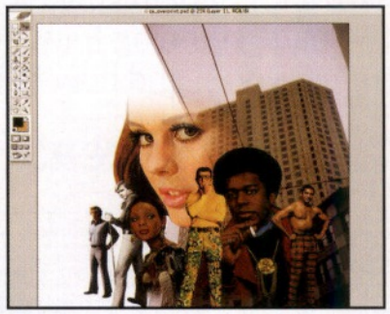
4 If you're overprinting in *QuarkXPress*, go to Window > Show Trap Information. Next, specify overprinting using the dropdown menus. Trapping is a term used to describe the use of overprint to search out any misalignment on the printing press, which could result in white gaps between objects.

Creating overprint effects, continued

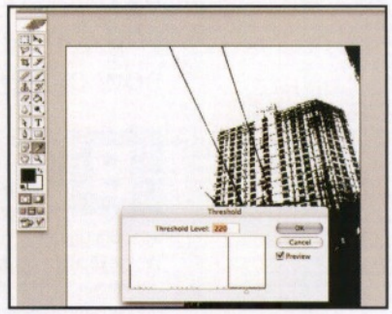
Using spot colours

Overprinting is most effective when using solid colours such as CMYK or Pantones. When using these colours you get a clear acetate effect, which will help you to plan your colour combinations. You'll also find that when you're working on a limited-colour job you'll be able to create a third colour from your two colours. Overprinting works equally well with metallic inks, so experiment, and remember that spot UV should be set to Overprint to prevent you from knocking out everything underneath it.

5 The composition for this tutorial image was started using a selection of images already prepared by me. Gather together a varied selection of images of people, sticking to a theme if you wish. Scan your images into *Photoshop*, cut them out using the Pen Tool and save each one individually as an EPS file with a clipping path.

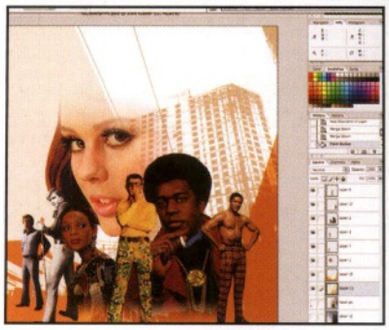


6 Although the final image is constructed mainly in *Illustrator*, it's worth using *Photoshop* in the early stages to speed up the process. Import the background images from the DVD. Working at 300dpi, you can now stylise you illo before applying overprint techniques.



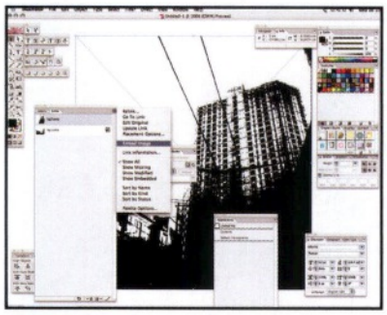
7 Select the image of the background buildings. In the Layers palette, Alt/Option+click on the layer's eye icon to turn off all the other layers. To stylise the photograph, and reduce it to a single flat colour, first select Image > Adjustments > Threshold. Use the slider bar to alter the image until you're happy, then press OK.

8 Treat the second background image in the same way, using the Threshold command to establish an effective background. You can now play around with the colour using a Hue/Saturation adjustment layer. Go to Layer > New Adjustment Layer > Hue/Saturation, check the Colorize box in the dialog, and use the sliders to alter the colour.

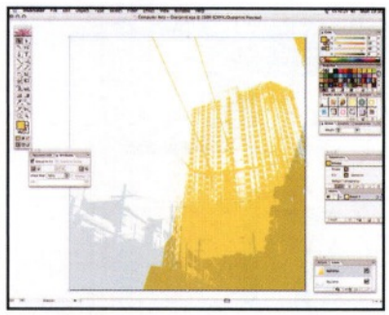


9 Colour your photos using adjustment layers until you're happy with the general composition of your illustration. You'll now need to start rebuilding your image in *Illustrator*, using a range of overprint techniques.

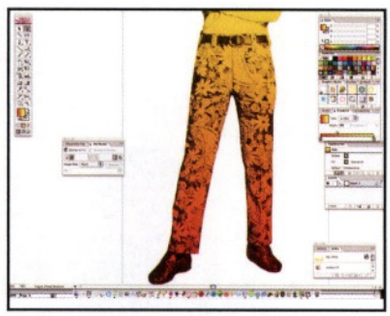
10 Paste the background building layers into a new *Photoshop* document by right-clicking (Ctrl+clicking) on the layer name and selecting Duplicate Layer. Set Destination to New. Convert the images to 1-bit bitmaps by selecting Image > Mode >Grayscale, and then go to Image > Mode > Bitmap. Finally, set the resolution to 300 pixels/inch, and set Method to 50% Threshold . Save the file a .BMP.



11 File > Place the Bitmaps into *Illustrator*, ensuring that you've embedded them. Do this by unchecking the Link box on the Import window, or after importing, by going to Window > Links and clicking the arrow on the Links palette. Look for a dropdown menu with Embed Image on the sixth line.



12 Once your images are embedded, colour them using a range of flat colours. In *Freehand* you can colour greyscale images, which helps to create a more photographic look. But here we'll focus on overprinting in *Illustrator*. Colour the bitmaps as you would a normal shape, but use Overprint and Overprint Preview as shown in step 1. Contrasting colours will work best.



13 Import one of your figures with a clipping path into *Illustrator*. Embedding the image frees the path from the EPS. Ungroup the mask from the image, Copy and Delete. Apply a gradient set to Overprint. Group the gradient with the image and press Ctrl/Command+F to paste the mask back. Select the image/gradient group and mask, and press Ctrl/Command+7 to mask both the image and gradient.

Overprint and printers

Overprinting is often an experimental process, so ensure that you make your printer aware of any overprinting within your files. They can advise you in advance of any problems that may crop up. Your printers may need to run the job through the machine several times, or even change the ordering of the inks on the press, to achieve the effects you want. Finally, before sending your overprint work to print, always preview it by saving an EPS of the vector/page layout file, and opening it as CMYK in *0*.

14 Place the figure you've been working on back into its position at the front of your composition; placing it slightly behind the building images creates a great effect. You could also import another background image at this stage.

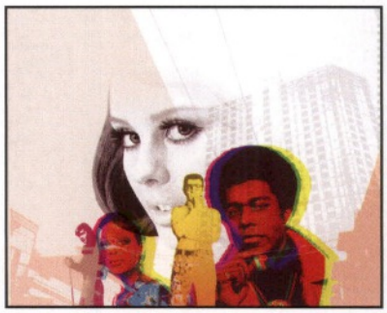
15 Our photo of the couple was imported into a new *Photoshop* document as shown in step 10. The CMYK channels of the image were then split to create four greyscale images. Do this with an image of your own by choosing Window > Channels palette. Save each channel as a bitmap, making sure that you keep the colour name of the channel within the file names.

16 Embed the four bitmap channels into *Illustrator* as before, and recolour them with Overprint, keeping their file names. This process effectively rebuilds the original CMYK image, but with a different effect. Now move them horizontally away from each other, to add interest.

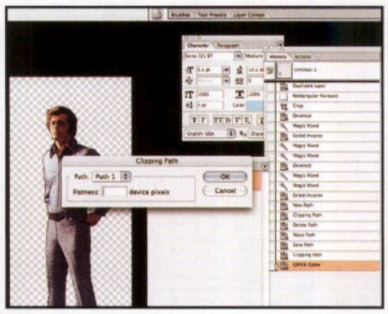
Creating overprint effects, continued

Previewing images

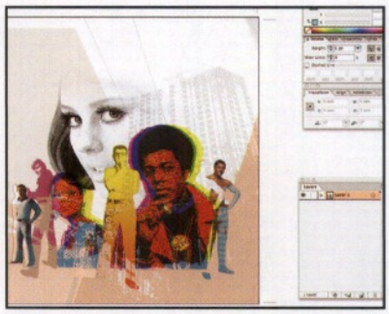
Software packages do their best to represent the Overprint effects on screen using their Preview features. But it's impossible for the nuances of overprinting to be previewed exactly. Inks could blend strangely and paper saturation could change the effect during production, so, with that in mind, be cautious when using overprinting or speak to your printer. Alternatively, throw caution to the wind, have fun and experiment!



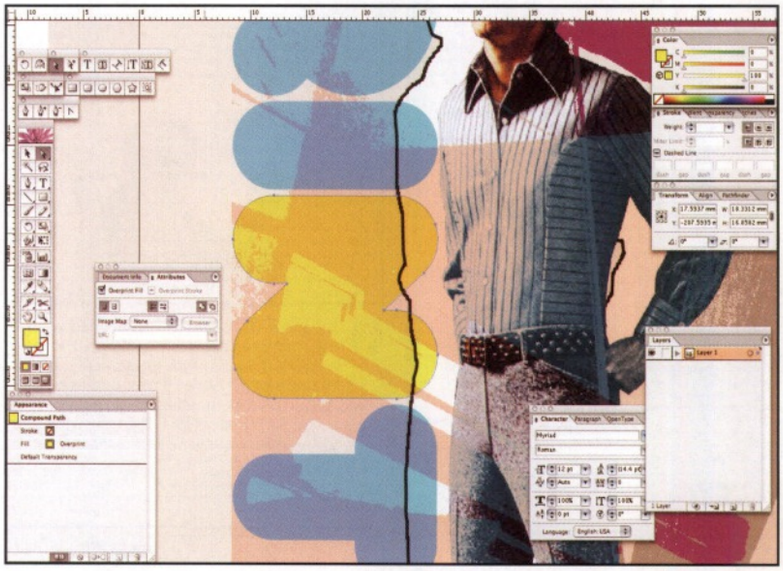
17 When working with bitmaps and overprinting in *Illustrator* and *Freehand* it can be hard to see how your work really looks, because the bitmaps often don't render well on screen. Save your file as an EPS, and open it again in *Photoshop* as a CMYK file to view a more accurately rendered version.



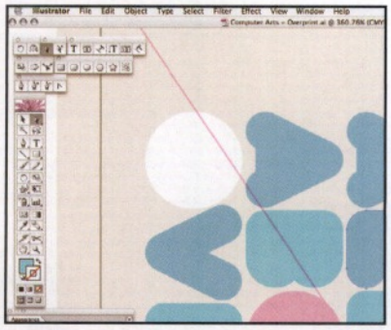
18 Save the remaining figures included in the composition as EPS files with clipping paths in *Photoshop*, and then import them into your *Illustrator* document.



19 Your finished *Illustrator* composition should now match the original *Photoshop* version, but you'll notice that its colours have altered a bit. Overprint colours can mix quite strangely, which is annoying. Unfortunately, the only way to combat this colour variation is to experiment.



20 You can now add any typography you feel appropriate. Subtle overprinting is really effective when used with typography, but remember to keep it as simple as you can, or your image will start to appear too complex.



21 Add any other small details you wish, such as line work or textures, and contrast overprinted objects with regular knockout objects. These small details will serve to give your illustration a real sense of contrast and scale.

22 Finally, you'll need to make sure that your final *Illustrator* file is print-ready. Save it as an Illustrator EPS by choosing File > Save As... and then selecting Illustrator EPS from the Format dropdown menu. This file will now provide true overprint effects. And that's it – you should now have all the skills you need to experiment further with overprint techniques within your illustration work.

Mac FORMAT

The UK's fastest growing Mac mag!

Get the best from your Mac by subscribing to MacFormat today

All your Apple needs
Mac FORMAT
ISSUE 160 October 2005
TUNE UP SAFARI
EXCLUSIVE DEMO!
Sibelius 4
GAME DEMO
Halo 2
FULL PROGRAM
Amapi 3D
Create 3D models on your Mac!
TOOLKIT
Speed up the web!
15 utilities to optimise your Mac's internet settings and more!
PLUS: Video training
Learn how to use the new features of Photoshop CS2
AUDIOBOOK
Ender's Game
Listen to the first chapter of this sci-fi audiobook for FREE!
TOOLKIT CD
All your Apple needs
Mac FORMAT
ISSUE 162 December 2005
OS X TRICKS!
6 pages of fantastic hints and tips!
20 GREAT iPOD IDEAS
Brand NEW things to do with your iPod:
Get directions • Go underwater • Play games & more!
NEW! The iPod nano tried and tested
Page 82
PLUS!
Mac essentials
iPod Toolkit: 26 fantastic apps
GooBall: play the
FREE MAGAZINE!
CLICK
FULL VERSION!
Design 3D worlds
MOJOWORLD 2 SE
Create this image. Full tutorial inside
HOW TO...
Fix over-exposed photos in iPhoto 5 p46
Add professional titles to your iMovies p44
Set up your own digital darkroom p62
Easily transfer files from your old Mac p50
TRIAL
Macromedia Studio 8
Try the latest versions of Dreamweaver 8, Flash Professional 8 and more!
EXCLUSIVE PRO TRIAL!
Freeway
New version 4
The easiest way to make web pages ever!
Hollywood at home
Make pro movies on your Mac
"I'm a Mac addict!"
Stephen Fry on why he's Britain's no.1 Apple fan
CREATIVE CD
NEW!
Toast 7
Best version yet! Full review p92
TRIAL
Unity
FULL VERSION!
Alarm Clock Pro 6
WIN!
Free tickets to London's MacExpo!
HOW TO...
Get perfect photos with Photoshop CS2 p42
Make PowerBook batteries last longer p74
Share iTunes songs between computers p46
Save money on professional programs p38
EXCLUSIVE INTERVIEW
Myst V
We talk to the developers about the end of an era...
Movies on the move
Transfer video to your portable device

Each issue, MacFormat provides you with...

- The best tutorials by our *MacFormat* experts
- Comprehensive tests, including exclusive product reviews
- Practical, authoritative and passionate advice
- Exclusive full programs on our two CDs

Why subscribe?

- Never miss an issue of your favourite Mac magazine
- You will be able to buy in confidence with our honest and reliable reviews
- Save £27.95 when you subscribe by Direct Debit
- Get full access to the premium content on computerarts.co.uk

HURRY! CALL 0870 437 4722

Remember to quote the order code P015 or subscribe online at: **www.macformat.co.uk**

Graffiti-style Flash

French graffiti artist turned graphic designer **Nicolas Dhennin** reveals how to create distinctive layered graffiti-style imagery using Photoshop and Flash's underused, and much undervalued, bitmap capabilities

Whether you're a web designer who uses *Flash* routinely, or a graphic designer looking for a brand new style, getting to know *Flash's* bitmap tools could really be worth your while.

The Trace Bitmap function, which enables you to convert bitmap images into vectors, has been available in *Flash* since the earliest versions, but few of us use it. The secret is in the preparatory work in *Photoshop*, where you can use the Threshold adjustment to turn a portrait photo into a vector illustration.

As with any work of this type, however, the final result is only as good as the source material. You need punchy contrast images to work with, so take your photographs in good light, and get into the habit of shooting subjects against a clear blue sky or a solid backdrop to make cut-outs easier.

There are a million ways to cut out an image, from the 'quick and dirty' to the painstaking and precise. For the kind of images we'll be using in this tutorial, a fairly rough approach is not only necessary but actually adds to the effect. You can sharpen edges later using the Bezier tools.

The Threshold adjustment is the key to creating illustrations from your photographs. It converts images to 1-bit black and white, so there are no midtones, just highlights and shadows. Because that middle ground is missing, you have to work hard to get the right level of detail in the image, but when it's done well it can create a dramatic effect.

The best thing about vector illustrations is that they can be scaled to any size – from stickers to posters. Graffiti artwork often uses just a simple black-and-white stencil overlaid on to a colourful background – just like the image featured here.

Files on disc
DiscContent\Tutorials\Chapter4\Tutorials\Graffiti style Flash

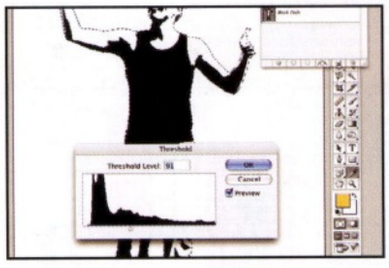
Illustration by Nicolas Dhennin www.meda1.com

Creating a vector montage

1 First open the Tibo.jpg image from the DVD in *Photoshop*, and start to draw an outline around the character using the Pen Tool. To ensure an accurate selection, zoom in to the image, and then move around it with the space bar held down for fine control.

2 Once you've completed the outline, you can create a selection. First go to the Paths palette and then choose Make Selection from the palette menu. Now go to Select > Inverse in order to select the background.

3 Delete the background, leaving only the character you've cut out. If necessary, you can tidy up the character by zooming in as tight as possible, and removing unwanted pixels with the Eraser Tool.



4 Go to Image > Adjustments > Threshold. Adjust the highlights and shadows with the slider to pick out the character's features. Aim to strike a balance, so that the features are only just defined, without too much detail.

5 Your approved image will become the final rendered character in *Illustrator*. Here, the character is outlined and isolated. With your character reduced to a stark black and white image, create a new layer, and choose a colour that emphasises the outline. Save the image as a JPEG, with Quality set to Maximum.

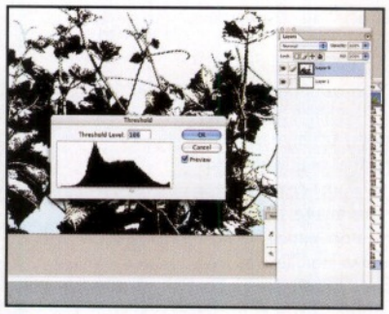
Creating a vector montage, continued

Layers and colours

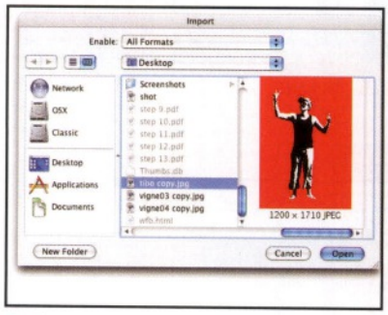
You can create more interesting images by building up your layers. Keep the image simple, with relatively few colours – use swatches to keep track of your colours. Try to use dark colours sparingly if you can, and layer the elements from light to dark, and from front to back.

6 Open vine04.jpg from the DVD. In an image like this, it's easy to create a selection using the Color Range dialog because the vine and the sky have very different colours. Go to Select > Color Range. Now click in the sky in a typically blue area, and increase the Fuzziness to select a range of similar tones of blue, and include as much background as possible.

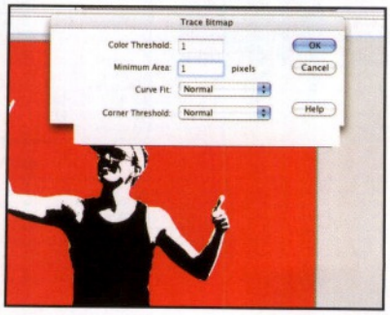
7 Delete the sky, and create a new layer for the background. Next choose a light colour that you think works well against your vine outlines – in this case white is probably best. Merge the two layers to create a single layer.



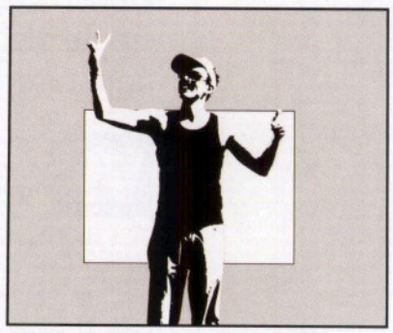
8 Repeating the process used in step 4, use the Threshold adjustment to create a black and white image of the vines. Again, you'll need to ensure that you maintain just the right amount of detail.



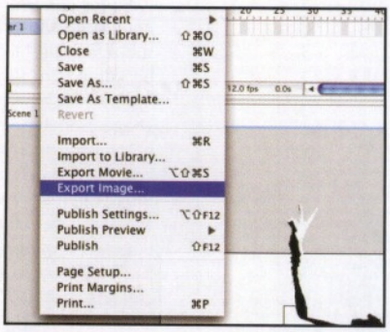
9 You can now open *Flash*. First, create a new movie with a large stage (800x600). Next, go to File > Import, and import the character and his red background on to the *Flash* window stage.



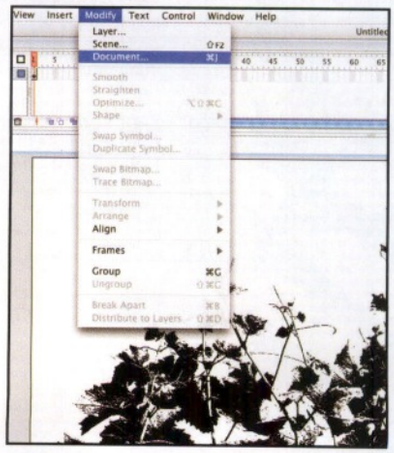
10 The Trace Bitmap Tool enables you to convert your images into vector shapes. Go to Modify > Bitmap > Trace Bitmap. Now set the Color Threshold and Minimum area to 1. This will ensure that as much detail as possible is preserved when converting the image to a vector graphic.



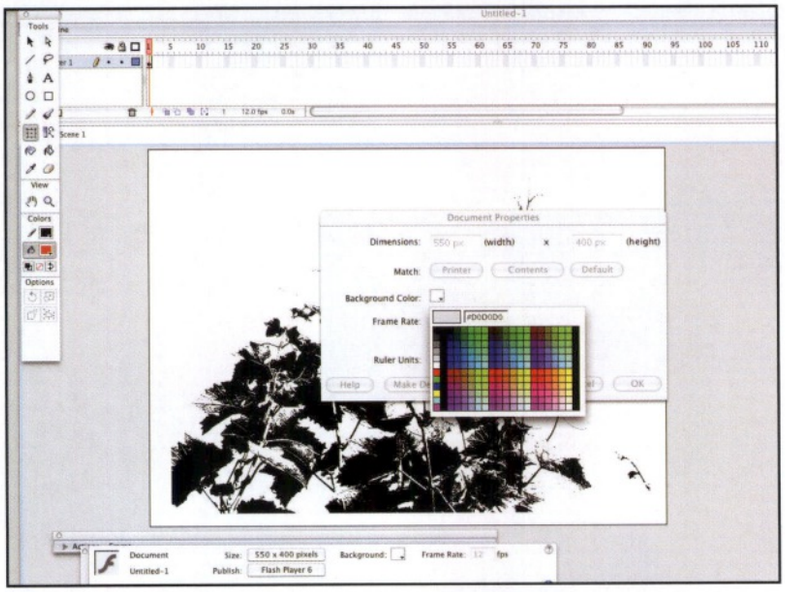
11 Once you've converted the image, the individual areas of colour will be selectable. Because the background is a flat colour, you can select it all by clicking on it just once. Delete the background, leaving the converted character visible.



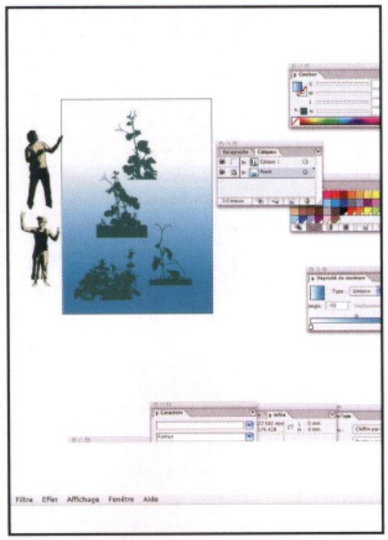
12 You should now export the file you've created as an *Illustrator* image. Choose File > Export > Export Image and select the Adobe Illustrator (AI) format from the dropdown menu that appears.



13 Within the same *Flash* movie, import the 'vine04' image that you converted using the Threshold adjustment in step 8, and then change the document colour using *Flash*. Simply select Modify > Document.



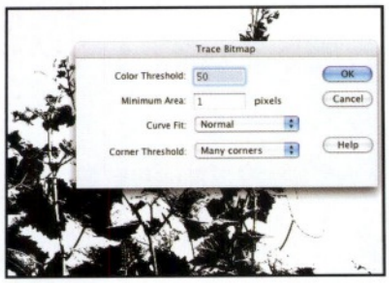
14 In the Document Properties window, select a colour of your choice, but of course make sure it's different to the current image colour. Once you've decided on a colour, hit OK



18 You can now colour the shapes and the characters according to your taste and style. Additional elements can be used, too – interesting effects can be achieved using scanned drawings, photos, or by mixing different media.

Stencil it

Using the Threshold function in *Photoshop*, and Trace Bitmap in *Flash*, you can create black and white images that make great stencils. Just scale up the image to A4 size, and print it off on some thick paper or card (or alternatively mount the paper on some heavy card). Using a scalpel or sharp craft knife, cut out the black areas and you'll have a stencil you can use to reproduce the image anywhere!



15 Now use the Trace Bitmap feature once again to convert your black and white vine image into a scalable vector shape, using the same techniques as in step 10. Go to Modify > Bitmap > Trace Bitmap. You can now repeat all of the previous steps with the other images provided on the DVD, or with any other images of your choice.

16 Once your images have been transformed, delete the white around each one. Some white will still be left, but this will be easy to delete it with the Magic Wand Tool in *Illustrator*. Now export each image by selecting File > Export > Export Image, and choosing the Illustrator (AI) format.

17 Although *Flash* is good for transforming bitmaps to vectors, it's really only designed for screen use, so, to create your final composition, create a new document in *Illustrator*, and use the Place function to lay out the individual elements.

19 For the illustration featured here I used a range of colours with a Linear gradient, and then placed the vines in the foreground so that the characters' feet were hidden. The final composition is up to you, but remember to think carefully about the way the image is arranged on different layers, to draw the viewer's eye into a striking focus point.

Illustration by Ben Miners www.graphikboutique.com

Graffiti vs digital

Two heads are always better than one... Digital artist **Ben Miners** teams up with graffiti artist Daim, and uses Photoshop and Cinema 4D to demonstrate just how effective artistic collaboration can be

By combining a photo of beautiful street art by graffiti artist Daim (**www.daim.org**) with the rendering power of *Cinema 4D* and *Photoshop*, I hope to encourage you to work with other creatives, and produce similar collaborative pieces of your own.

Adopting these techniques will bring a fresh approach to your work that won't be lost on your clients. But it's not as easy as it looks, so it's important to understand what's involved. This tutorial explains, step by step, how to create a collaborative project, from choosing an artist to work with to combining their work with yours in *Cinema 4D* and *Photoshop*. You'll then be shown how to use this image as a background canvas.

Taking a more organic approach to your work, you'll make lots of sketch marks, as if using a pencil and paper, and experiment with new materials. You'll add some 3D elements in *Cinema 4D*, but most of the work will be done in *Photoshop* – making the most of lighting, textures and layers, and learning how to build up a 3D effect. You'll also see how best to combine elements using *Photoshop's* extensive blending options.

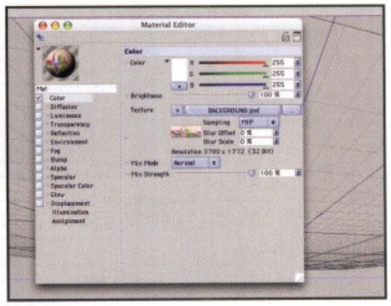
Files on disc
DiscContent\Tutorials\Chapter4\Tutorials\Graffiti vs Digital

Creating digital graffiti

1 First off, find a collaborating artist, unless you want to create the graffiti yourself, or use the image provided on the DVD. I first saw Daim's work in *Graffiti World* – a great book covering all of the best graffiti work from around the world.

2 I contacted Daim through his website, and expressed an interest in working with him. He was very keen on the idea after seeing some of my work, and sent me some photos of his work. The image above is another of his pieces.

3 Open background.jpg, Daim's original image. To remedy the slight lack of contrast, open the file in *Photoshop* and go Image > Adjustments > Brightness/Contrast.

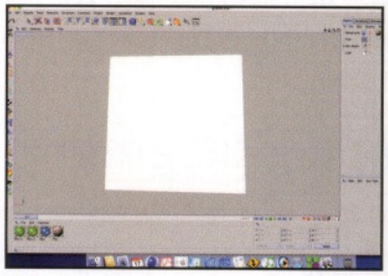


4 Open *Cinema 4D*, choose File > New Material and double-click on the new material. Click on the Color box on the left-hand side of the window, and then on Image to locate your new texture/photo file. Once background.jpg has been assigned, make sure that the brightness of the material is set at exactly 100%.

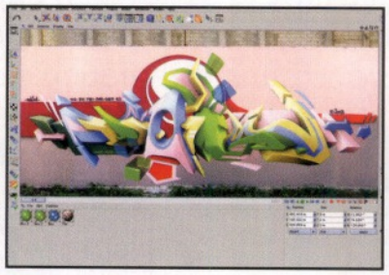
Creating digital graffiti, continued

Blending options

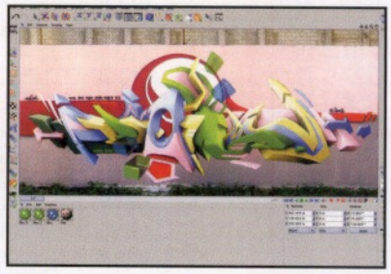
It's so important to continually experiment with layer blending modes if you want to produce interesting results. You never know what might happen when you mix blending modes – the Luminosity and Color modes, for example, are both very interesting to work with. Try moving the layer positions around – you never know which modes might work well together.



5 *Cinema 4D* has a handy tool called Floor, which is located with the lights and cameras at the top on the program interface. Click on Floor, and a 3D floor will instantly be added to your scene, as shown. This plane acts as a background/wall when you rotate the whole image to a frontal view.



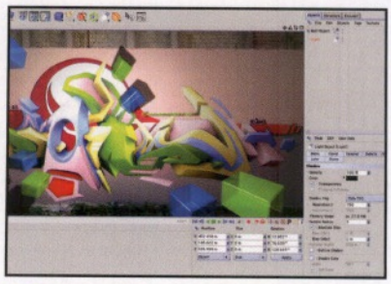
6 You can now assign one of your background textures to this floor plane, simply by dragging it into the scene. Set Texture Mapping to Frontal Projection to form your background. Try to avoid just using the Background tool, as it won't be possible to change its position or angle.



7 Next, create some 3D geometric shapes using the Object tool. Position them at various depths and angles to fit into your composition. Once you've positioned these blocks, assign a texture, or just a simple colour, to them (as in step 4). Play around with the transparency of the new texture, or change its Specular and Brightness.

8 Build up the 3D blocks until you're happy with the results. Keep trying different angles and depths within the composition – the more you experiment, the better the chance of finding the right solution. There's no set rule for this; just do whatever you think looks right against the background.

9 Now we need to add some light to the scene, using the Light option at the top of the *Cinema 4D* interface to make the 3D blocks look less dull. Play around with the position of the light until you create the right effect on the 3D surfaces and objects. Alternatively, buy a well-lit 3D object from **www.turbosquid.com**, where you'll find hundreds of 3D models.



10 Take your time at this important stage to get the effect exactly as you want it. Once you're happy with the composition, create a render to use in *Photoshop*, first changing the Shadow Map to ensure a crisp result by clicking on the light source in the section titled Shadow.

11 You can now bring the image to life by duplicating the background, and setting the new layer's blending mode to Screen. You can also alter the Color Balance, Brightness and Contrast to pump more colour into your composition.

12 At this stage, drag in some old texture layers. Use whatever you have around, but paint splatters are ideal. I frequently create such textures in my spare time – these are just photos of paint I splattered on a foam board. Change the layer's blending mode to Luminosity, and set the Opacity to around 70%, so that the image shows through.

13 Use the Overlay blending mode to add more texture to various parts of your composition. The textures used here are simple cut-outs created using the Lasso Tool. Once you've positioned your textures, use the Eraser Tool to blend their edges. The image may look a little strange at this stage, but it will all make sense later on!

14 Continue to build up texture, as above, using the Overlay blending mode and placing textures where you think they look good. Try out different blending modes, to see how they look against the background image.

15 Lasso all the parts that you'd like to stand out, and fill them with a solid colour. For this image, I used bright yellow. Change the blending mode to Color, and your selected areas will stand out even more.

16 Select the Brush Tool, and set the brush width to about two pixels. Now scribble over your composition in white, green and blue. Leave the blending mode set to Normal, and add simple arrow shapes using the Lasso Tool.

Textures

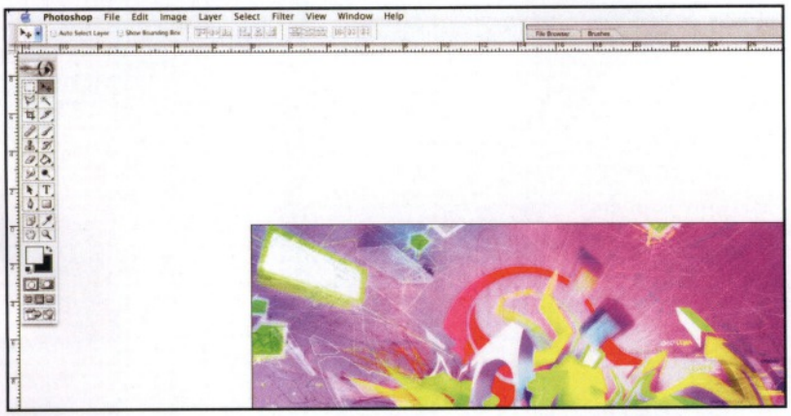
By creating and photographing various textures, you can create images that mix organic textures and computer-based work. I'm always looking for new textures to photograph for my work. There's no need to buy the best camera available, as you can tweak the shots in *Photoshop*, but make sure it's at least five megapixels.

17 Enable the Brush Tool's airbrush feature, and add some white light around the main arrow and the smaller blocks. These highlights will add definition to certain parts of your composition. Play around with the blending modes – here, I left the white light layer at Normal.

18 Now use the Type tools to add some type. I chose the typeface Tag Boy Hardcore – a graffiti-based font. Make sure it's black, then change the layer's blending mode to Overlay and set the Opacity to around 70-80%. This should create a 'cut-out' effect. Repeat this step as many times as you like, using various line strokes to add character until you're happy with your composition.

19 Flatten your image, and adjust its contrast and brightness (Image > Adjustments > Brightness/Contrast) and Curves (Image > Adjustments > Curves). Now experiment with blending modes for the flattened layer – Hard Light will add definition.

20 Continue tweaking the colour options. There's no right or wrong here, just save whatever you think looks right – it's a case of trial and error.



21 Finally, use a 2-pixel brush to create an array of final scribble marks. The colour of the brush stroke is black, so change the blending mode to Overlay, and set the Opacity to around 80-90%.

Merging layers

Sometimes your *Photoshop* files can get quite big as you add more and more layers. If you find that your computer starts to slow down, try merging some of the layers together, but make sure that you only merge layers with the same blending modes. Once you've merged the layers, be sure to reset the layer to the desired blending mode, as the mode will default to Normal when you merge layers together.

Illustration by Christian Darkin www.darkin.demon.co.uk

Improve your figure

The characters you create don't all have to look like showroom dummies – new features in the modelling tool Poser 6, free on the DVD, offer realistic lighting and excellent skin simulation. **Christian Darkin** shows you how to use them

The problem with *Poser* has always been that although you could create and pose figures with relative ease, everything that came out of the program always looked like it had been created in, well, *Poser*. So most pro users would export work to other 3D packages, and create their own materials and lighting there.

With version 6 all this has changed. Enhancements to the package, especially to the lighting tools and the materials, mean that if you do a little work on your figures you can banish forever those poorly-shaded plastic action figures that stare blankly into the middle distance.

To create the image shown on the left, you'll use three of *Poser's* brand-new features. The first is Sub Surface Scattering: this enables you to produce realistic skin tones by simulating the effect of light bouncing under the surface of skin. Colours beneath show through to create a glowing complexion, deepening red tones in the shadows, and light can penetrate thin areas, such as the ears, to give a warmer feel.

The second feature is Image Based Lighting, which creates a lighting set-up based upon a picture wrapped on to a sphere surrounding your scene. As a result, light will appear to be coming from all around your character, rather than from just a couple of specific point lights.

Finally, you'll add Ambient Occlusion. This, like Image Based Lighting and Sub Surface Scattering, isn't an accurate physical simulation, but it's a quick way to create realistic soft shading.

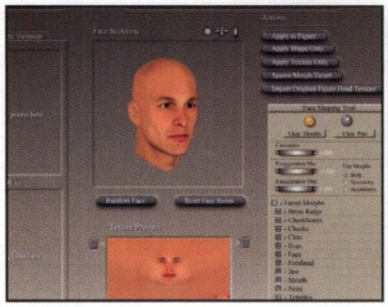
With some *Photoshop* work, and a little delving into *Poser's* finer points, you'll be able to produce incredibly lifelike figures.

Files on disc
DiscContent\Tutorials\Chapter4\Tutorials\Improve your figure

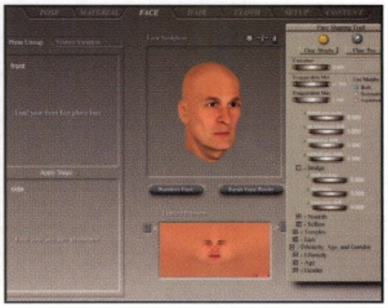
Creating a figure in Poser

1 For the base of your figure, use the high-resolution version of James. He's a young man, but we'll be customising the face and texture to create an elderly portrait. You should add a conforming shirt and a pair of glasses before you begin.

2 The character has been seated, because we originally intended to create a full-length shot, although we later decided to zoom in for a portrait instead. His shoulders are angled, and his head tilted downwards. We've also pointed his eyes downwards, and closed them slightly to create an air of concentration.



3 In the Face Room you can start the process of creating an elderly face. All your work will be with the geometry, since you'll be creating a new texture later in *Photoshop*. For now you should only work with the controls on the right of the screen.

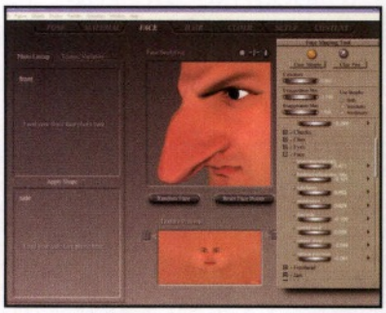


4 You'll need to create an old, thin, gaunt face, and that's easy enough to achieve with the cheek, face and age controls. As people age, their skulls and eyes don't grow much, but their noses and ears do. By reflecting that in your model, the face will look stronger, and gain more character. Elderly skin is looser too, so make the bones (brow, chin and cheeks) more pronounced while drooping the jowls, and the skin around the eyes.

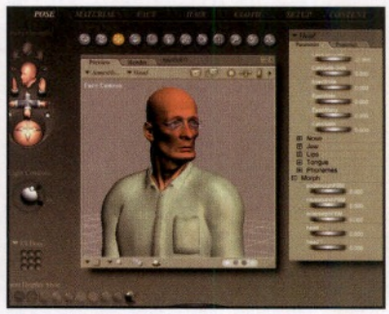
Creating a figure in Poser, continued

Image based light

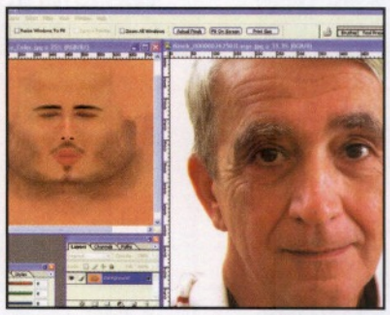
Image Based Lighting works with specially created 360-degree dynamic range light probes. Producing them is a specialised job, but you can get a pretty good approximation by simply using an ordinary photo as a light map. It's not perfect, so you'll need to experiment. Try taking a photo of the environment you're trying to place your 3D object into, with as wide an angle as possible, and which includes the full range of light and shade in the room. You can then play around with the brightness of the light in *Poser* and alter its colour balance in *Photoshop* to get a good result.



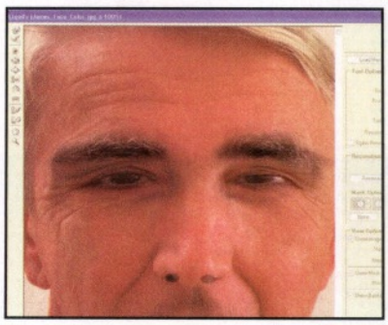
5 Keep the controls within the range of 1-1, otherwise the character will start looking decidedly odd (as it does here), and check him frequently in the Preview window, rotating the model to ensure he looks good from all angles. Poser doesn't have all the controls you need to do a perfect job here; if you have time, export the head to a another 3D package, and create your own morph targets.



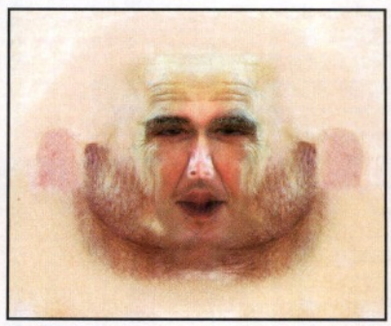
6 Rather than simply applying the face directly to your model, click Spawn Morph Target to create a dial on the head's Parameters window. This enables you to morph the standard character into your new figure. This is a good idea, because it means that now you can easily tone-down the new characteristics, or combine them with other morphs to refine your character later.



7 Rendering the face looks good, but it still has the skin of a young man, so you'll need a new face texture. Load up *Photoshop*, import the James_face_color.jpg texture from the Runtime/Textures/Poser6Textures/James folder, and then import a well-lit image of an elderly man looking straight at the camera.

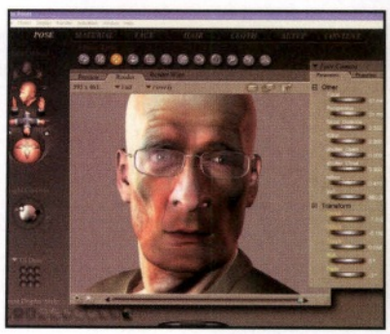


8 Add the photo as a new layer on top of James's face and roughly resize it, then use the Liquify filter to distort it. Take a large, soft eraser, and blend the photo into the texture behind it.

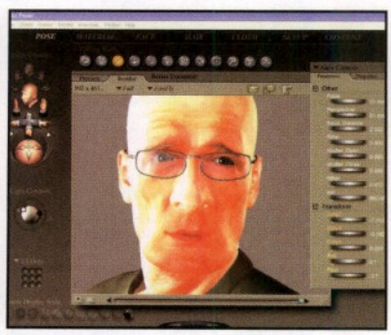


9 Next, the texture's colours need to be matched with the original texture. James's skin as it comes is tanned and smooth. By clicking Auto Levels, the contrast is increased, and the blemishes are emphasised. Do some colour work on your photo layer to blend the two together. Since there's some body skin showing, you'll also need to match the texture James_body.jpg to the new face, and hit Save.

10 Back in Poser, enter the Material Room, and click on the head to select the head material. Now change the diffuse colour image map for your new face map. Do exactly the same for the body, and for both materials add a bump map by dragging from the icon to the right-hand side of the bump label to the left-hand icon of the texture box. Set the bump level at .0017.



11 A quick test render shows that you've now got a very strong face that's full of character – he's starting to look like a human being, rather than a *Poser* character. However, the lighting is a little unrealistic right now, and the skin looks rather flat and dull.



12 Sub Surface Scattering (SSS) is what happens when light hits skin. Because it's a transparent substance, the light bounces under the skin, diffusing and altering the shadows, making the skin appear to glow, and making thin areas, such as the ears and nostrils, look slightly transparent. SSS is added in the Material Room, and the rendered result is instantly more human.

13 Adding SSS in the Material Room adds new nodes to the shader of your material. These make assumptions about the nature of your character's skin – and in our case they're the wrong assumptions. This can happen easily, but the skin you're building is elderly, thin and pale, so you'll need to reduce the red value in the Fastscatter, Edge Blend Inner and Outer colours (think of these as the colours of the skin itself, and the tissue underneath it). The result will be a yellower glow.

14 Next up is the lighting. *Poser* scenes are automatically set up with basic three-point lighting. Our first step is to switch off two of them, by selecting them in the Light Controls section at the bottom-left of the screen, and using the Properties panel to switch them off. With the third light still switched on, use the same panel to turn it into an Image Based Light, and turn on Ambient Occlusion.

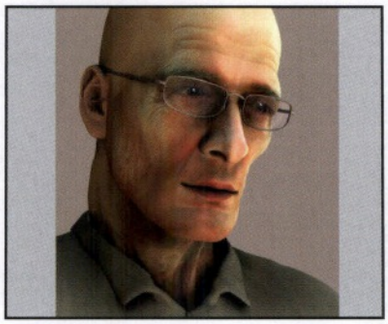
15 Image Based Lighting uses a photo to set up the light. Imagine the photo mapped on to a sphere surrounding the image. Any bright areas will emit light, so a realistic range of soft lights light your scene. To add an image, click Advanced Material Properties, and add a node by clicking and dragging the icon to the left of the colour label. Choose a 2D image map, and pick the Interior Light From Side image from the Poser 6 Textures/LightProbes folder.

16 To make the eyes shine naturally, turn on another light, and set it as a point light. With a little experimentation, place it in a position that creates a highlight in your character's eyes. Be careful though, as this light will also affect the rest of the scene, bleaching out the subtle effects of the Image Based Lighting.

Accurate bump levels

Bump levels can be tricky. The higher the resolution you're rendering at (or the closer you are to the bump), the more pronounced the bump map will appear. Ours is set for a full-page render (3,400 pixels high), but on a test render at 400 pixels it's too low to even be seen. You really need to experiment to find the best level for your project, but you can reduce the rendering quality while you're trying things out.

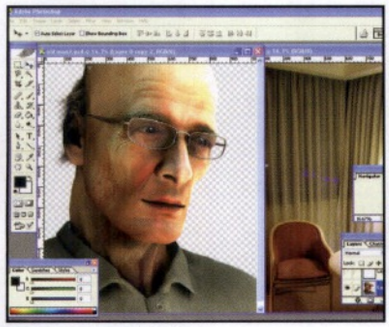
17 The answer to this problem is to make the effects of the lamp specular only. To do this, switch it so that it produces reflections, but no actual light. You can achieve this by clicking Advanced Material Properties again, but this time set the diffuse colour for the light to black.



18 A test render will reveal a very pleasing image – things are coming together. At this point, it's worth ramping up the render quality to get a feel for exactly how your shadows and reflections will look. This image was rendered at just short of final quality.

19 At this point your character will need a little hair, but don't go for a full head of hair, just gentlemanly tufts around the ears and back of the head. First add James's Follicle Surface (a *Poser* object shaped to follow the curves of the character's head). Now switch to the Hair Room, and, with the Follicle Surface selected, create a completely new hair group. By clicking Edit Group, you can select just the polygons of the head around the ears and back of the head, and then select Grow Guide Hairs to see the results come to life.

20 Shrink the hair to .077, increase the number to around 60,000, increase its kink strength, and give it a tip width and root width of 1.6 and 2. Hair will be grown at the same width (in pixels) whatever size your render, so to render large images the hair must be very thick – even though this won't look right in low-res test renders.



21 To render the finished image (which is best done overnight because of the time it can take), save it as a PNG file and import it into Photoshop. This preserves the transparency, and you can then import a photo to use as a backdrop. It's a simple matter to drag this in, position it, give it a bit of a blur and alter its colours.

22 You can now make some final adjustments to the image, blending any of the textures that don't look right, removing stray hairs from the scalp, and faking a slight depth of field effect with the Blur filter. You could also add a little grain to blend the CG head with the backdrop, and do some colour correction to make the shot appear more real.

the.roni-
n.vs.sem-
i.perman-
ent.
RONIN
SEMI
the.roni-
n.vs.sem-
i.perman-
ent.
the.roni-
n.vs.sem-

Photoshop in motion

Create a cityscape in Photoshop and bring it to life in After Effects...

The following tutorial shows you how to create graphics in *Photoshop* which can then be imported into *After Effects* to create an animated landscape. *After Effects* is a memory-intensive program, so to relieve some of the rendering time, we're going to show you how to create 95 per cent of the graphics in *Photoshop*, including grading the look of the film. Take a look at the finished movie (From_Huddersfield_With_Love.mov) on the DVD to see what can be achieved.

This piece was originally created for the Semi-Permanent art and design conference (see **www.semipermanent.com** and **www.designiskinky.net**) in Australia/New Zealand in 2004. Intended as a video filler between speakers, the aim was to demonstrate how a small town in England could reach out halfway around the globe and show how the Semi-Permanent vision had affected it. The concept of Semi Permanent is enforced with buildings that pop out of the ground, and also by spray-painted logos and neon signs that eventually won't stand the test of time.

As this tutorial mainly focuses on the use of *Photoshop*, it's up to you to experiment in *After Effects* with how the piece moves, and how the camera swings around the environment. The finished AEP file is on the DVD, so you can see how it works, but do experiment and try different techniques and movements to create your own unique vision. You can also try different soundtracks, and perhaps time your camera movements and animations to the music.

Expertise provided by Rob Chiu of The Ronin
www.theronin.co.uk

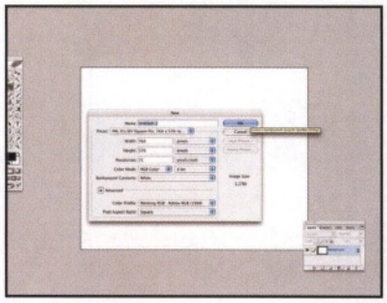
Files on disc
DiscContent\Tutorials\Chapter4\Tutorials\Motion graphics
DiscContent\Vid Trials\After Effects Pro 6.5

Part 1: Recreating the city of Huddersfield

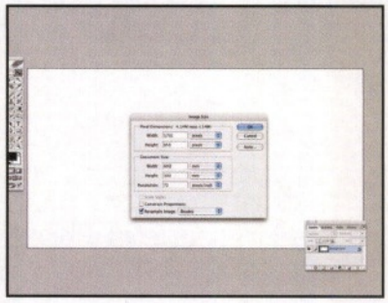
Prepare your document, and find some source material...

Proxies

Because the original 300dpi file created for this piece would slow down some CPUs, we've optimised the *After Effects* file by using proxies. Proxies are low-res files that are effectively the same as the high-res file. Using proxies in your workflow speeds up render times, so that you can preview stuff much quicker and thus increase your output, rather than sit around watching progress bars.

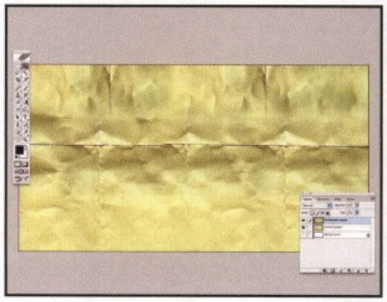


1 Usually when creating a *Photoshop* document you'd create a composition of 768x576 for PAL at 72dpi, but as we want to be able to zoom into areas of our composition, we need to make the graphic a lot larger, and a higher resolution.

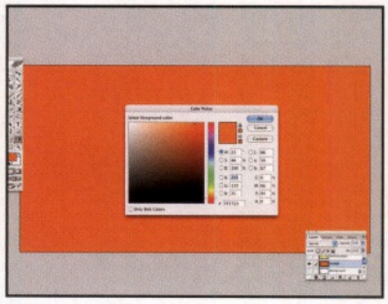


2 Make the document as large as possible. For the purpose of this tutorial we'll create an RGB document of 600x300mm at 72dpi to accommodate the width of the landscape, and also to enable us to zoom in with no loss of resolution. However, if you have the time and processor power, you should use the same dimensions but at 300dpi. Name the document 'HD' skyline.

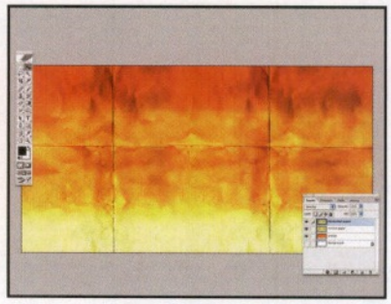
3 Drag paper.jpg into the document twice, so that you have two layers of paper. Name one 'horizontal paper' and the other 'vertical paper'. This is just a piece of scrap paper we scanned in.



4 Using the Clone Stamp Tool and rotating the layer, make the crease on the horizontal paper layer run horizontally. Likewise, make the crease on the vertical paper layer run vertically. These layers are used to create texture in the cloud background. Set the vertical layer to Multiply, and horizontal layer to Overlay.

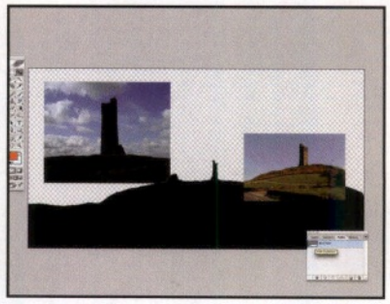


5 Next create a solid layer of orange, such as R:255, G:119, B:35. This colour will be used to give the sky a sunset/sunrise tint.

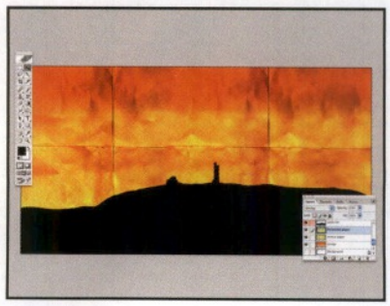


6 Feather off the bottom quarter using the Lasso Tool, entering a Feather Radius of around 50 pixels, then delete the selection. Make this your bottom layer, above only the default Background layer.

7 The next stage results from a Google image search for 'Castle Hill – Huddersfield' and tracing various images in *Photoshop*. These elements are combined to create a unique view of the hill. Due to copyright control, we can't include these images on the DVD, but there's nothing stopping you from searching for them yourself.



8 To create this style of image, use your Pen Tool (P), and treat the subject as if you were creating a normal path. You may have to make the slopes of the hill continue to the sides of your document. Once you're happy with the path, hold down the Ctrl (Command) key, and select the path in the Paths palette to turn it into a selection.



9 Create a new layer, and fill this selection with a solid black. Name the layer 'castle hill' or, if you haven't followed the last two steps, simply drag the document castle_hill.psd from the DVD into your document, and place it over the top of the two paper layers. Remember to Save regularly.

Part 2: Creating paths, and rebranding the city

Carefully cut around your buildings and objects, and use type to add character...

Illustrations

You'll notice in the movie and the AEP file that there are some illustrated characters that aren't included in the tutorial. These can be found in the 'HD skyline proxies.psd' file on the DVD, and can be imported into your main comp. Try drawing paths around certain elements of the illustrations, and animating them individually to create dynamic animation out of what are essentially just 2D drawings. Try introducing your own hand-drawn characters, to give the piece your own voice.

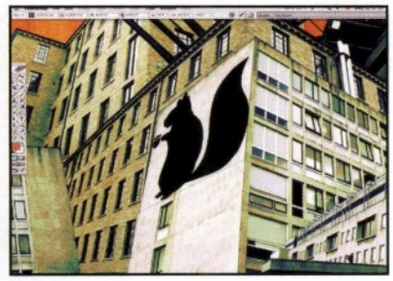
1 The next step is the most laborious. Go to the photos folder on the DVD, and open each document within. You need to create a path around each of these buildings and objects.

2 Once you've done this, save each image, along with its path, as a back-up file. In each document you then need to turn the path you've just drawn into a selection, and drag each element into the HD Skyline document. Place the buildings where you want them – there's no right or wrong way to do this, just follow your vision of how it should come together.

3 Once you've done this, and named all the layers, duplicate each one, and place it beneath its original. Click in the box next to 'Lock' in the Layers palette to lock the transparent pixels. Make sure your foreground colour is black, and hold down the Alt key and press backspace. Notice that only the cut-out shape is filled with black, rather than the entire layer. Repeat this for each building, ensuring that each black version sits behind the photo version.

4 In the next stage, you need to place the Design Is Kinky logo on some of the buildings, along with some other text in various places. Download the Sammy logo from **www.designiskinky.net**. Open the logo in *Photoshop*, and drag the largest version of Sammy into your HD Skyline document.

5 Using the Free Transform options, scale Sammy on to a layer above hri_2. You can roughly judge the correct perspective by using the side of the building and the windows as a guide. Hit Enter, and then scale the logo to the size you feel works best. Do the same with the rasterised text layer reading 'April 2004'. Fill both these layers with solid black. We've chosen the font New Clarendon MT, so that the text falls in line with the Semi Permanent brand.



6 Duplicate both the Sammy layer and the text layer, and invert both layers (Select > Inverse) so that they're now both white. Place these layers behind the black ones, and then repeat steps 4-6 for various buildings, so that Sammy is all over the place. You could even make the logos and text look like they've been sprayed on with spray paint.

7 To further emphasise the conference, you can create some neon signs showing the conference name, the year and the organisers. Using New Clarendon MT, type SEMI, KINKY and 04 on separate layers in red (R:178, G:6, B:6) and then rasterise the text.

8 Drag texture.jpg into your document, and paste it inside the KINKY text by placing it over the text layer and pressing Ctrl/Command+G. Experiment with the transfer mode, then use your Dodge and Burn tools to burn out parts of the texture until you're happy with the shading and so on. Merge the text layer with the texture layer, and duplicate this layer.

9 Next, you need to make the merged text/texture layer a selection, and then choose Select > Modify > Contract. Play around with the amount of pixels until you're happy with a slightly inset selection.

Rebranding the city, continued...

Effects

Try different effects in *After Effects* by pre-composing the entire composition and overlaying various comps on each other, and try masking off areas, and moving the entire composition to create visual stutters. Take a look at the AEP file included on the DVD for an example of this. Try different transfer modes on various layers, but remember that the more complex you make the project, the longer the render times.

10 Delete the selection from the duplicated layer, which should be sitting above the original layer. You should be left with a fine outline of the textured text.

11 Using your give the outline layer a Bevel and Emboss layer style. Play with the settings, and experiment until you get a hard, chiselled look that stands out from the layer below it.

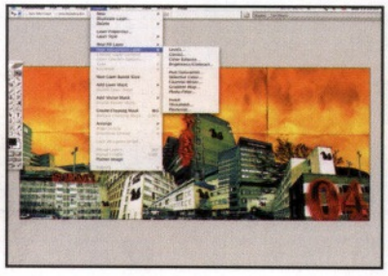
12 Merge the two textured text layers, and duplicate this layer. Lock the transparent pixels on the bottom layer, fill with the same red, and then unlock the transparent pixels and use the Gaussian blur filter to create a glow behind the lettering. Then angle the neon lettering on to the buildings.

Part 3: Additional elements

Working with colour tones, darkened corners, titles and credits...

Understanding pixels

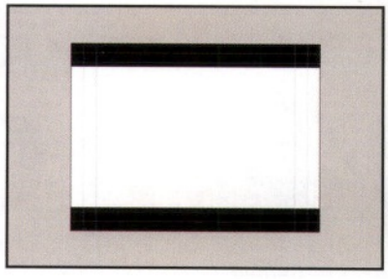
Pixel aspect ratio is a tricky and complicated subject, but, in short, *Photoshop* uses square pixels while video and TV use rectangular pixels. That is why video in *After Effects* always looks slightly compressed horizontally, unless you've checked the Pixel Aspect Ratio option, which forces the image to look correct to the eye.



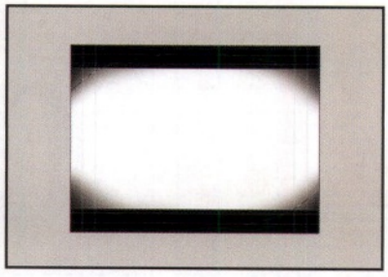
1 Now we're going to grade all the buildings so that they have the same colour tones. We want to give them a 'cross-processed' look, which is a treatment that photographers use in the darkroom. First, create an adjustment layer as the uppermost, top layer and choose Gradient Map (Layer > New Adjustment Layer > Gradient Map).

2 Create an adjustment layer as the uppermost, top layer, and again choose Gradient Map. Select the purple, green and gold from the Colour Harmonies 2 palette. You can try different colour combinations to achieve different effects.

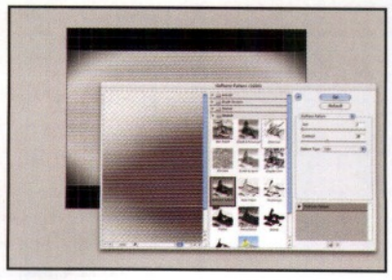
3 Set the blending mode to Color, and take the Opacity down to around 50 to 60%. Duplicate this gradient layer for each building that you want to grade. Place the gradient layer over the top of each building, and merge the two layers.



4 Create a new document of 768x576 pixels at 72dpi. *Photoshop CS* users can take advantage of the preset PAL D1/DV Square pix 768x576. Name the document Semi Permanent. Create some 16:9 ratio borders by measuring 72 pixels from both top and bottom and then fill with black. Name the layer '16:9'.



5 Open a new layer called 'darkened corners'. Using the Elliptical Marquee Tool, create an oval shape, central to the document but with the edges bleeding off the left and right-hand sides. Next invert this selection, feather it at around 50 pixels, and then fill it with black.

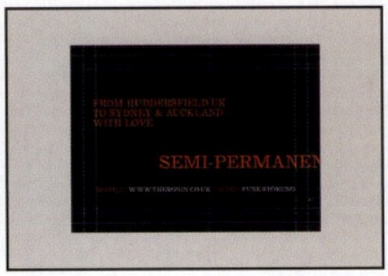


6 Create another layer called 'screen', and by using the selection of the darkened corners layer, fill the screen layer with grey and then use the Filters > Sketch > Halftone pattern to create a screen effect. Use these settings – Size: 1, Contrast: 20, Pattern Type: Line. Set the layer to Overlay.

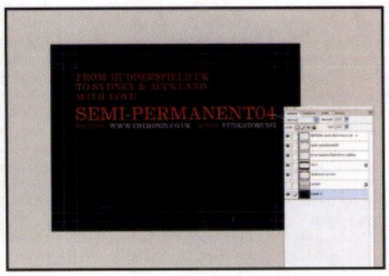
Adjusting layers

Adjustment layers work differently in *Photoshop* than in *After Effects*. In *After Effects* you can apply any filter to an adjustment layer and practically do anything to the layer, and it will affect everything below it. Adjustment layers in *Photoshop* work in the same way, but you can't apply any filters, because there's only a set amount of adjustment layers available in the program.

7 You now need to create some brief titles and credits within the same document. To ensure that the titles stay within your 'TV safe' region, activate the guides.



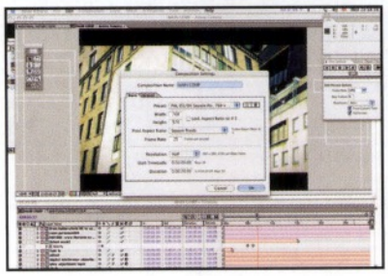
8 As the idea for the motion of the titles involves the titles coming in from the sides as three separate pieces of text, we need to individually create each of these sections on its own respective layer.



9 We use New Clarendon MT for the titles, to fall in line with the Semi Permanent brand and the previous text elements, but you can use whatever font you like, and input your own credits. Make sure all your text sits within the inner guidelines, to ensure readability on a wider range of televisions.

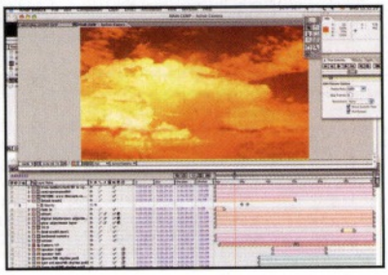
Part 4: Bringing your city to life

With your composition complete, you can animate it in *After Effects*...

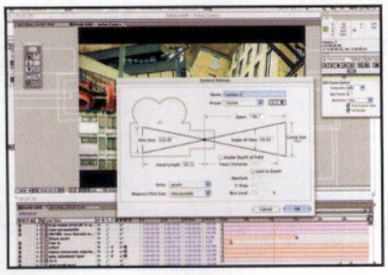


1 Launch *After Effects*, and import both the HD Skyline and Semi Permanent PSDs as compositions. Change the settings of the HD Skyline composition to 768x576.

2 Copy all Semi Permanent layers into the HD Skyline composition, ensuring that you've set position keyframes on each layer so that everything stays in the same place. Also make sure that these are the top layers.

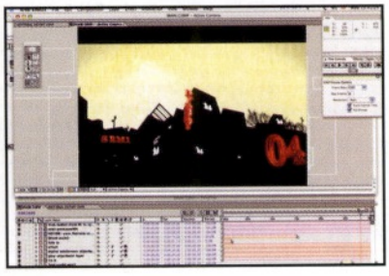


3 Go to **www.digitalvision.com**, and search for then download some timelapse cloud comps. Place these on top of the background layer, and below the orange layer. Set the transfer mode of orange to colour. Ensure the entire timeline has some sky movement.



4 Create a new camera (Layer > New > Camera), and leave all settings at the 35mm preset. Make sure the camera layer sits below all layers from the semi permanent psd, but above all layers from the HD Skyline psd. Activate the 3D layer option for all layers below the camera except for the cloud movies.

5 Animate your title text so that each piece of text comes in from off screen and centres in the middle of the screen, so that it's placed exactly as it looks in *Photoshop*.



6 You can now animate your camera. Try different speeds and different angles, so that you get a feel for the camera flying around the landscape, shooting from one spot to another. Keep the pace up, and the timeline fairly short, and you can create a pretty convincing fake environment. ■

EACH MONTH COMPUTER ARTS PROVIDES YOU WITH...

- A free cover CD, complete with full software, trials and essential utilities
- The chance to learn new techniques from a diverse range of cutting-edge tutorials
- All the latest news and impartial reviews from our team of industry experts

BUT DON'T JUST TAKE OUR WORD FOR IT

"Where else can I learn about the ultra-cool 123Klan, read about the legendary David Carson, or be inspired by an unknown young designer? Forget the other magazines, *Computer Arts* has it all!"

Rob Chiu, motion graphics designer
www.theronin.co.uk

"Most design publications have become so distant from the heart of the design community. *Computer Arts* is more like a good friend's portfolio than some austere glass-tower publication."

Todd Purgason, creative director
http://juxtinteractive.com

SUBSCRIPTION ORDER FORM

☐ **UK £54** (rrp £78) **Quarterly Direct Debit £13.50** **Europe £65** **USA £54** **Rest of world £80**

We publish 13 issues of *Computer Arts* a year. Your subscription will start with the next available issue. Stocks limited to availability. Please allow 28 days for delivery of the gift.

YOUR DETAILS

Title

First name

Surname Company

Address

Postcode

Tel no. (inc. code)

home/work

Email address

PAYMENT DETAILS: I understand that I will receive 13 issues over the next 12 months

☐ Cheque (Made payable to Computer Arts. Sterling cheques drawn on a UK bank account)

☐ Mastercard ☐ Visa ☐ American Express ☐ Switch

Card no. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐

Expiry date ☐☐☐☐ Issue number ☐☐

Signature

Date

Please quote offer code 2000 Offer ends 17th January 2006

❑ **Direct Debit payment –** Just £13.50 every 3 months SAVING 30% (UK only)

Instruction to your Bank or Building Society to pay by Direct Debit

DIRECT Debit

Please fill in the form and send to: Computer Arts, Future Publishing Ltd, 4 Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF

Name and full postal address of your Bank or Building Society

To: The Manager: Bank name

Address

Postcode

Originators identification number

7	6	8	1	9	5

Ref no. to be completed by Future Publishing

Instruction to your Bank or Building Society

Please pay Future Direct Debits from the account detailed on this Instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Future and if so, details will be passed electronically to my bank or building society.

Account in the name(s) of

Branch sort code

Bank/Building Society account number

Signature

Date

Banks and building societies may not accept Direct Debit instructions for some types of account

Return address Computer Arts Subscriptions, Future Publishing, FREEPOST RLSC-SXSE-SKKT, Unit 4 Tower House, Sovereign Park, Market Harborough, Leicester LE16 9EF

We will use the contact details supplied by you to contact you about your subscription. Indicate here if you're happy for *Computer Arts*, Future Publishing and its sister companies to contact you with other information/offers by: ☐ email or ☐ telephone. Please indicate here if you do NOT wish us to pass your details on to carefully selected companies, to enable us to contact you about their products/services by ☐ email or ☐ telephone.

SUBSCRIBE TODAY AND SAVE 30%

Now you need never miss an issue again...

WHY SUBSCRIBE?

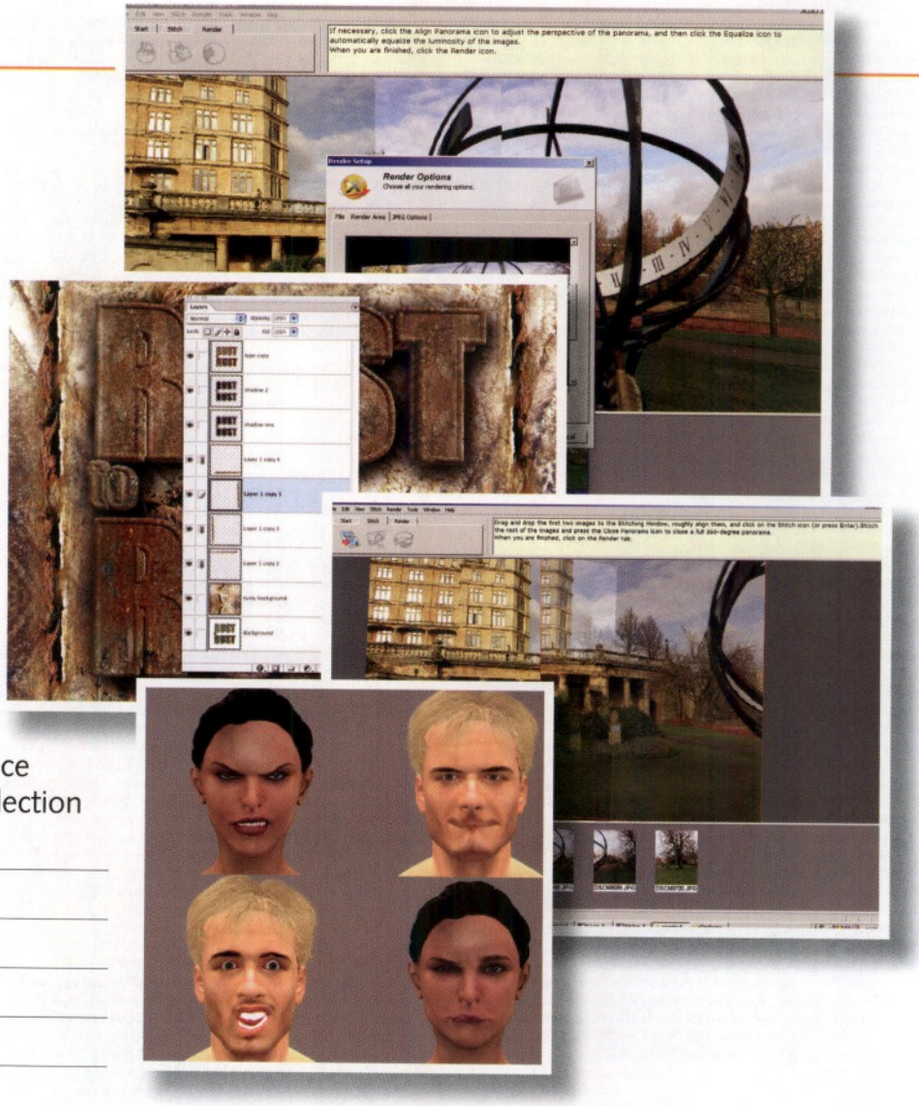
- Save 24% when you subscribe by direct debit
- Get every copy delivered direct to your door
- Exclusive subscriber copies come with a stylish text-free cover
- Ensure your copy of the best international creative resource

SUBSCRIBE NOW AND GET ACCESS TO HUNDREDS OF FREE TUTORIALS ONLINE!

To take advantage of this great offer visit
www.myfavouritemagazines.co.uk/coa/2000

5

DVD pages



Get more out of your Photoshop experience by making use of this premier software selection

251	Adobe Photoshop CS 2 (30-day trial)
252	Adobe Illustrator CS 2 (30-day trial)
253	RealViz Stitcher Express 1.0 trial
254	Poser 6 trial
255	DVD Highlights: Filters, plug-ins and more!

DVD DIRECTORY

FULL PRODUCTS

Xara 3D 3 – PC
Machine Wash filters – MAC & PC
Whiplash Filters – MAC & PC

TRIAL APPLICATIONS

Adobe Photoshop CS2 – MAC & PC
Adobe Illustrator CS2 – MAC & PC
After Effects – MAC & PC
Xara 3D – PC
Cinema 4D – MAC & PC
Poser 6 – MAC & PC
SiteGrinder – MAC & PC
RealViz Stitcher Express – MAC & PC
Eye Candy 5 Impact – MAC & PC

RESOURCES

Dream Stock images
Turbo Photo Images
Supergraphx Plug-ins
Poser Resources
Veneer, paper textures

VIDEO LESSONS

Painter IX Training
Painter VIII Training
Photoshop for Digital Video

TUTORIAL FILES

You can also find supporting files for our tutorials on the DVD. Below is an listing for your easy reference:

CHAPTER 1 Photoshop Essentials

PAGE 26 Mix Design Elements
\DiscContent\Tutorials\Chapter 1\Tutorials\Mix Design Elements
PAGE 60 Photorealism in Photoshop
DiscContent\Tutorials\Chapter 1\Tutorials\Photorealism

CHAPTER 2 Expert Photoshop Effects

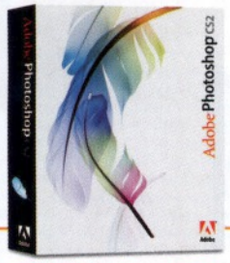
PAGE 84 Blurred Vision
DiscContent\Tutorials\Chapter2\Tutorials\Blurred Vision
PAGE 90 Age your images
DiscContent\Tutorials\Chapter2\Tutorials\Age your images
PAGE 96 Halftone and bitmap effects
DiscContent\Tutorials\Chapter2\Tutorials\Halftone
PAGE 102 Dynamic lighting
DiscContent\Tutorials\Chapter2\Tutorials\Dynamic Lighting
PAGE 108 Burn Effects
DiscContent\Tutorials\Chapter2\Tutorials\Burn Effects
PAGE 112 Brush Effects
DiscContent\Tutorials\Chapter2\Tutorials\Brush Effects
PAGE 118 Textured brushes
DiscContent\Tutorials\Chapter2\Tutorials\Textured Brushes
PAGE 122 Distort With Style
DiscContent\Tutorials\Chapter2\Tutorials\Distort with style
PAGE 128 Decay Effects
DiscContent\Tutorials\Chapter2\Tutorials\Decay Effects
PAGE 134 Photoshop Water Effects
DiscContent\Tutorials\Chapter2\Tutorials\Water

CHAPTER 3 2D & 3D Techniques

PAGE 144 Draw great eyes
DiscContent\Tutorials\Chapter3\Tutorials\Draw great eyesr
PAGE 147 Paint perfect noses
DiscContent\Tutorials\Chapter3\Tutorials\Paint perfect noses
PAGE 150 Bring lips to life
DiscContent\Tutorials\Chapter3\Tutorials\Bring lips to life
PAGE 153 Multi-element artwork
DiscContent\Tutorials\Chapter3\Tutorials\Mix Photoshop & Vectorr
PAGE 158 Photoshop in Fashion
DiscContent\Tutorials\Chapter3\Tutorials\Fashion
PAGE 164 Abstract type
DiscContent\Tutorials\Chapter3\Tutorials\Abstract Type
PAGE 168 Vector drawing techniques
DiscContent\Tutorials\Chapter3\Tutorials\Book Cover Designr
PAGE 172 Add another dimension
DiscContent\Tutorials\Chapter3\Tutorials\Add another dimension
PAGE 176 Pixel Perfect
DiscContent\Tutorials\Chapter3\Tutorials\Pixel Perfect
PAGE 182 Freeform 3D
DiscContent\Tutorials\Chapter3\Tutorials\Freeform 3Dr
PAGE 188 Anaglyph images
DiscContent\Tutorials\Chapter3\Tutorials\Anaglyph Images
PAGE 192 Abstract Glow
DiscContent\Tutorials\Chapter3\Tutorials\Abstract Glow
PAGE 196 Modern City Composition
DiscContent\Tutorials\Chapter3\Tutorials\Modern City
PAGE 202 Spray can effects
DiscContent\Tutorials\Chapter3\Tutorials\Spray Can Effects

Chapter 4 Flexible Photoshop

PAGE 224 Get Overprintings
DiscContent\Tutorials\Chapter4\Tutorials\Get overprinting
PAGE 230 Graffiti style Flash
DiscContent\Tutorials\Chapter4\Tutorials\Graffiti style Flashr
PAGE 234 Graffiti vs Digital
DiscContent\Tutorials\Chapter4\Tutorials\Graffiti vs Digital
PAGE 238 Improve your figure – Poser 6
DiscContent\Tutorials\Chapter4\Tutorials\Improve your figurer
PAGE 242 Photoshop In Motion
DiscContent\Tutorials\Chapter4\Tutorials\Motion graphics
DiscContent\Vid Trials\After Effects Pro 6.5



ON YOUR DVD

MAC & PC – FULLY FUNCTIONAL

Photoshop CS2 30-day trial

Even if you've already got a full copy of an earlier version, it's worth installing this!

Photoshop Creative Suite 2 offers a generous mix of crowd-pleasers and practical improvements that designers and photographers alike will want to get stuck into right away. The most talked-about new feature is a filter called Vanishing Point. It opens the currently selected layer in a separate window, where you can use a simple mesh tool to designate the perspective planes in an image. You can then paint with a brush, add type and use the Clone Stamp tool as before, but this time the results respect that perspective. For example, you might take a photo of a house and clone a window from one side onto another. To do this manually would take ages and the result wouldn't look anywhere near as good as that produced by Vanishing Point. It's a superb tool for adding chiselled text to wood and stone objects, or for cloning across flat textured areas such as floorboards or a brick wall. Even selections dragged with the Marquee tool respect the new perspective planes.

An equally important new feature, if less flashy than Vanishing Point, is envelope manipulation. In *Photoshop*, this is called Warp and appears next to the existing Transform tools. Having called up the Warp command for a selection, *Photoshop* puts a vector envelope around it. Now when you manipulate the shape of the envelope, the selection within is squeezed and stretched accordingly. You can choose from a number of envelope shape presets or work manually, editing the outline shape only or adjusting inner handles as well in a mesh fashion.

The Lens Correction filter compensates for optical distortion in photos – great for remedying the effects of wide-angle lenses. Strictly speaking, you could probably do this using the Warp function, but Lens Correction is better, because it's easier to control and regulate. The one side-effect it produces is to lose image areas around certain edges where the pixels have been tucked in. Inevitably, you'll have to recrop the finished image.

Get smart!

Designers who create original images from composite sources will love Smart Objects. You may have experienced something similar in *Adobe GoLive CS*. Smart Objects are *Photoshop* images or Illustrator graphics that have been placed into a new *Photoshop* document but link back to the original source files. This way, you can put these images and graphics into *Photoshop* layers without having to impose a specific pixel resolution. You can then edit and manipulate these layers in the knowledge that none of your edits are having a detrimental effect on visual quality.

Digital photographers were spoilt with the last *CS* release, and they're twice as spoilt here. Instead of dealing with Camera RAW images singly, you can now apply colour corrections from the Camera RAW import window to a batch of images – ideal for, say, a sequence of shots taken at the same time. If your preferred technique involves shooting multiple frames of the same scene at different exposures, *CS2* enables you to combine them into a 32-bit High Dynamic Range (HDR) mode. This ensures all possible detail from each exposure is brought into the combined image. You can then adjust the balance between them using a slider and optionally remove exposures from the combined set.

There are plenty of small but useful new features, including a noise reduction filter that has options for tackling JPEG artefacts and mixed colour noise. Our favourite is Smart Sharpen, which we now use in preference to Unsharp Masking, as it does the job so well. It can't salvage severely out of focus photos, but it works like magic on everything else, eg when an auto-focus camera erroneously fixes on something behind the subject.

Also new is *Photoshop* Elements' one-click Red Eye Correction tool, a similarly nifty one-click Spot Healing brush, and several grouping and linking enhancements to the Layers palette. *ImageReady* is still in the box, too, but most of its features are now bolted to the main program, including the Animation Creator. We recommend that you upgrade to a full version just as soon as you can.

PRODUCT INFO

PLATFORM
Mac and PC

COMPANY
Adobe UK

WEB
www.adobe.co.uk

PRICE
£516
£163.33 (upgrade)

FEATURES
- Vanishing Point
- Warp
- Smart Sharpen
- Optical lens correction
- 32-bit High Dynamic
- Range image editing
- Smart Objects
- Multi-image Camera
- RAW processing
- Automatic layer selection
- Spot Healing brush
- One-click Red Eye Correction

MIN SYSTEM REQ
- MAC: G3, 192MB RAM, 320MB hard drive, 1,024x768 display, Mac OS X 10.2.8
- PC: Windows 2000 (SP3) or XP, Intel Pentium III, 192MB RAM, 280MB hard drive, 1,024x768 display

THE INTERFACE

1. Previously seen in Photoshop Elements 3, the Red Eye Correction tool fixes red eye problems in flash photography with one click (per eye).

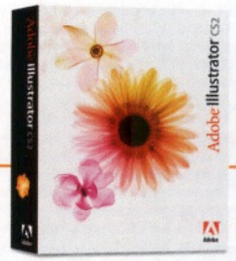
2. All menus are customisable. There 's even an option to highlight all new features in blue, like this.

3. A new Warp option (available under Edit>Transform) enables you to manipulate selections within flexible vector envelopes.

4. Layers can be linked with each other so that transformations and masks apply to them all at once.

5. You can resize and manipulate Smart Object layers without losing resolution data with each change.

ON YOUR DVD



MAC & PC – FULLY FUNCTIONAL

Illustrator CS2 30-day trial

The latest incarnation brings two new killer features to the mix

PRODUCT INFO

PLATFORM
Mac and PC

COMPANY
Adobe UK

WEB
www.adobe.co.uk

PRICE
£511.12
£163 (upgrade)

FEATURES
- Live Trace
- Live Paint
- Context-sensitive Control Palette
- *Photoshop*-like Effects and Filter Gallery
- Apply spot colours to drop shadows and greyscale images
- Custom stroke placement
- Improved mobile and Flash export

MIN SYSTEM REQ
- MAC: G4 , 256MB RAM, 960MB hard drive, OS X 10.2.8
- PC: Windows 2000 SP3/XP SP1, Pentium III, 256MB RAM, 820MB hard drive

Adobe Illustrator has long been the tool of choice for anyone wanting to create crisp vector graphics, the recent (if now fading) fashion for clean lines and solid fills within the industry no doubt making it more attractive than ever. So what does *Illustrator CS2* promise the vector artist? And what will tempt you to upgrade?

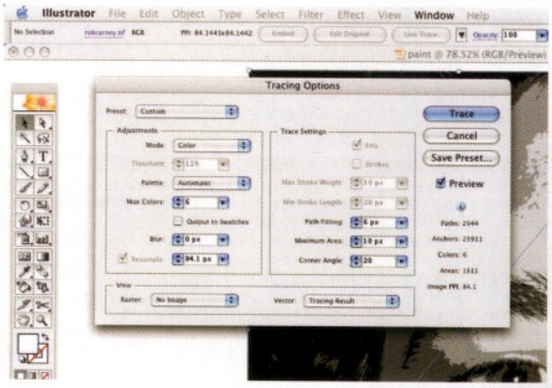
Well, how about something Illustrator itself has lacked until now: a bitmap tracing tool? Its arch-rival *FreeHand* had one for a while, but we reckon *Illustrator*'s Live Trace is the better option. (Fortunate, really – *FreeHand*'s future looks uncertain given Macromedia's recent much-publicised acquisition by Adobe.)

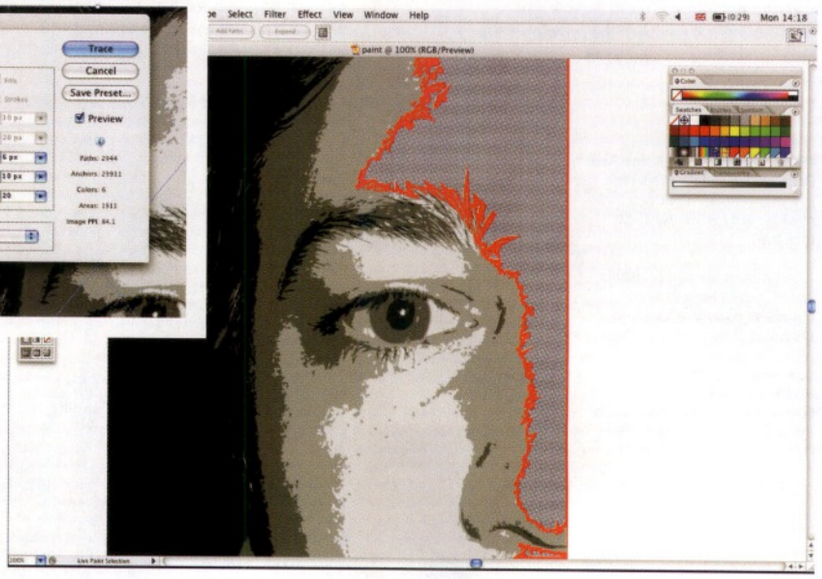
At its most basic, Live Trace is a tool for converting photos or scanned line art into vector paths and fills. What makes it "Live" is the fact that you can preview the effect of your trace before applying it – which saves a lot of time. On opening the Live Trace dialog in the Object menu, you're presented with a vast range of options. From here, you can specify what colours you want, as well as the number of paths, anchor points and areas created. It's possible to be very precise, too. By clicking the Preview box, Illustrator shows you the result of each operation – and if it's not to your liking, simply alter the settings and the trace preview will update. You can also save trace settings as presets and use them on different images afterwards. This experimental approach to tracing works brilliantly, and is one reason why you should upgrade to *CS2*.

Buckets of colour!

The other is Live Paint, which aims to take the pain out of colouring objects. Now you no longer need to create fill layers to colour objects; with Live Paint, you effectively have a paint bucket for fillling whole areas quickly. Turn your regular objects into Live Paint objects (Object>Live Paint>Make) and they become edges and regions, rather than fills and strokes. If paths overlap, *Illustrator* creates new edges and regions – and you can fill both edges and regions with the Live Paint Bucket tool. This makes colouring much easier. And the really great thing is that these regions and edges aren't fixed. If you shunt overlapping regions around, the application updates the fill to cover the newly created region. Simply put, everything retains a dynamic relationship to everything else, and moving one object doesn't require you to create a new fill layer. Much more intuitive than it sounds, Live Paint is a tool artists colouring hand-drawings will love.

Another worthy addition is the *InDesign*-like context-sensitive Control palette, which gives you access to around 80 per cent of *Illustrator*'s tools from one place, chich cuts down on your mouse milage considerably if you're still learning the shortcuts. Changing the appearance of objects and stroking paths is a lot easier as a result. There's also the long-awaited ability to specify whether a stroke is placed on the inside, outside or centre of a path, new *Photoshop*-like Filter and Effects galleries, better support for spot colours, superior mobile and Flash-orientated tools, and – finally – custom workspaces. Still no multi-page support, though: maybe next time!





Above: It's easy to trace bitmaps and convert raster images to vector graphics with the amazing Live Trace.

Right: Live Paint enables you to fill areas without separate shape layers using the Live Paint Bucket.

DEMO SOFTWARE

RealViz Stitcher Express 1.0 trial

An incredibly easy way for stitching photos together to create stunning panoramic images

In the days of camera film, printing large panoramic images would entail hours of painstaking darkroom work, using masks and a variety of exposure tools, with the process generally only tackled by the most skilful of developers and printers.

There were, of course, those people of a particularly determined nature who, with some careful scalpel action on their prints, could also create the desired effect. At least, if looked at from a slight distance. Thankfully, this painstaking process has long been lost, with the power of digital enabling you to quickly blend and adjust several images together to create your perfect panoramic masterpieces. Even with this power to blend, match edges, exposures and colour, the process is still a time-consuming undertaking.

RealViz's award-winning *Stitcher* has set the standard for panoramic software for years, enabling professionals to shoot stills with a normal digital camera and lenses and quickly stitch the results together in the studio ready for print or web.

Affordable panoramas

Now for the first time, the latest version of *Express* offers the amateur snapper the power of *Stitcher* at an affordable price. *Stitcher Express* makes creating panoramas easy: simply load a series of images into your work space then move the transparent layers until they roughly match, and stitch them together in a wide variety of differnet ways, including 360-degree views, 180-degree views and spherical panoramas.

Once you're happy with the results you can export the file in a variety of formats ready for printing or final adjustments in your favourite image application. Unlike other panoramic software, there's no need for special lenses or equipment, making it the perfect addition to your digital darkroom.

The special trial version on this month's disc offers eight hours of full use, at the end of which it will revert to the save disabled and watermarked trial version, so be careful with your time and make the most of what it has to offer, and upgrade at the earliest opportunity.

1 IMPORT YOUR IMAGES

Upon launching, a quick guide to Stitcher Express will appear with links to online tutorials. Close this and click on the Load Images folder under the Start tab at the top of the screen. Now locate the images you want and click Open to import them.

2 ROTATE THE IMAGES

The images you import all need to be of the same size to enable Stitcher to work properly. If the orientation of your images is not correct, select all of them and then right-click and choose Rotate. The images will change orientation ready to start.

3 ADD IMAGES

Drag the first image in your sequence from the image strip panel at the bottom of the screen to the main workspace. Next select image two and again drag this to the main area. This image will be slightly transparent; align it to the first so it matches up.

4 STITCH YOUR SEQUENCE

When your second image is in position, you're ready to stitch. You can either right-click and select Stitch, or go to the Stitch tab at the top of the screen and click on Stitch. If there's a problem with the alignment, click Force Stitch to sort it out.

2 NAVIGATE YOUR IMAGE

Some images may need a slight amount of rotation before stitching. To do this, click the relevant image then hold down Shift and the right mouse button to set the rotation point and rotate the image. After that you can move it as normal.

3 THE FINAL RENDER

Once all of your images are stitched, you need to click the Render tab at the top of the screen. There are three options available. Skip the first one, then click Equalise > Render > Export, choose your settings and finally click on Render Area to check the finished article.

PRODUCT INFO

PLATFORM
Mac and PC

COMPANY
RealViz

WEB
www.realviz.com

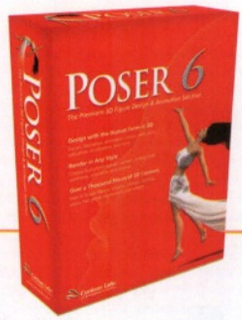
PRICE
$120
Also available bundled with *Photoshop Elements*

FEATURES

- Semi-automatic stitching, enabling creation of panoramas up to 360° x 180° (complete spheres!)
- Export to *Photoshop* (images and masks).
- Export to QuickTime VR (cylindrical or cubic), for interactive previews
- Choice of panorama format: cylindrical, spherical, snapshot.
- Auto light equalization
- Interactive previsualization of QuickTime VRs
- Edit out moving objects within your images (pedestrians, cars, etc)
- Automatic panorama alignment
- Auto trimming to optimum size
- "Best Rendering" feature for printed panoramas, enabling users to achieve the best-possible output

MIN SYSTEM REQ

- MAC: OSX v10.2, Power PC G3, 300 Mhz, 256 MB RAM, 1024 x 768 24-bit resolution, OpenGL compatible, 50 MB free disk space
- PC: Windows 2000 SP2, XP; Intel Pentium III 500 Mhz or equivalent, 256 MB RAM, 1024 x 768 24-bit resolution, OpenGL compatible, 50 MB free disk space



ON YOUR DVD

MAC & PC
Poser 6 trial version

See page 238 for more information on this highly capable character modelling package

PRODUCT INFO

PLATFORM
Mac and PC

COMPANY
Curious Labs

WEB
www.curiouslabs.com

PRICE
£157 / $249 / Đ229

FEATURES
- Figure posing and animation package
- Includes extensive library of figures, hair, poses, props, and lights
- Many single-click light rigs including image lights

SYSTEM
- MAC: Mac OS X 10.2, 500MHz G3 processor, Mac OS X 10.2, 256MB RAM, 500MB HD
- PC: Windows 2000 / XP, 500MHz Pentium processor, 256MB RAM, 500MB HD

Poser is a character modelling package that eschews the complexities of traditional 3D packages in favour of a straightforward workflow. *Poser* is aimed at anyone who needs to create a figurative model, whether it be for the basis of a sketch or as part of a 3D project (*Poser* models can be exported to a number of other 3D packages including *3ds Max*, *Maya* and *LightWave*). Getting started is easy. On launching the package you are presented with a basic character model (male, female, adult, infant, or even a range of animals and characters). From this starting point you can pose the character's various limbs, add clothing and props, light your scene and position cameras to view your model. The new figures offer a wider range of facial expressions than just about any others we've seen, allowing you to more closely mimic human expression. In particular, the lips and tongue are far more mobile, enabling you to create poses in which the lips overlay each other ver accurately indeed. There is also a really useful option that randomises the numerous parameters at the click of a button to produce really original expressions. There's also a generous wardrobe of clothes for the new figures, as this will enable you to use them in many situations straight out of the box.

Poser includes four render modes enabling you to style your output according to your needs. They range from a number of non-photorealistic modes, such as the Sketch designer and Toon Outline that create comic-style characters, to the Firefly renderer that uses raytracing to create photorealistic characters.

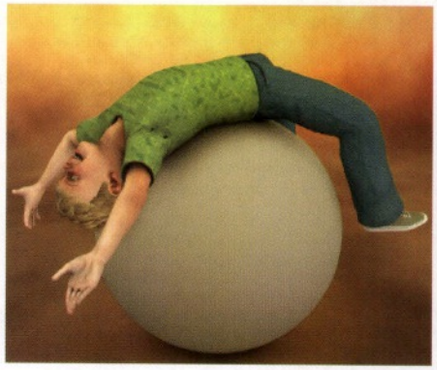
6 of the best

Enhancements to *Poser* version 6, especially to the lighting tools and the materials, mean that if you do a little work on your figures you can banish forever that poorly-shaded plastic action figure that stares off blankly into the middle distance.

In the column on the right are three of *Poser*'s brand new features that most users will find immediately helpful.

- **Sub Surface Scattering.**
This enables you to produce realistic skin tones by simulating the effect of light bouncing under the surface of skin. Colours beneath show through to create a glowing complexion, deepening red tones in the shadows, and light can penetrate thin areas such as the ears to give a warmer feel.
- **Image Based Lighting.**
It's now a lot more straightforward to create a lighting: the set-up is based upon a picture wrapped on to a sphere surrounding your scene. As a result, light will appear to be coming from all around your character rather than from just a couple of specific point lights.
- **Ambient Occlusion.**
This, like Image Based Lighting and Sub Surface Scattering, isn't an accurate physical simulation, but it's a quick way to create realistic soft shading.

With some *Photoshop* work, and a little delving into *Poser*'s finer points, you will be able to produce incredibly lifelike figures. For all the latest in 3D art, get a copy of our monthly sister magazine *3D World*!



Above: Anatomical skeletal restrictions keep poses and movement convincing – unless you want to distort them spectacularly in a 3D package, of course!

Right: New shading characteristics make facial expressions much more lifelike than in previous versions of Poser..

DVD Highlights

Just a small selection of some of the great programs on your cover DVD

WHIPLASH

MAC & PC FULL PHOTOSHOP PLUG-IN

Apply a trendy tarnished, weatherbeaten and careworn look to your images with this great Machine Wash filter

Many of the traditional techniques used to make your images look distressed can look artificial. Often, filters apply a repeating pattern that tiles too consistently, or they add in extra colours that ruin your image. This Machine Wash filter gives your images a highly convincing distressed look. The filter works by applying a relief map through a simple *Photoshop* action that gives your images a suitably flayed appearance. The map that's used as the basis for this image scales up to a hefty 18x18 inches at a print-friendly 300dpi, which means it's suitable for almost all project purposes you can imagine.

EYE CANDY 5: IMPACT

MAC & PC FULL PHOTOSHOP PLUG-IN

Classic effects from one of digital imaging's stalwarts: give 2D objects a convincing 3D effect, create metal textures and more!

Use this easy to apply collection of ten *Photoshop* filters plug-in to add some pretty amazing effects to your digital imagery. Create chrome, brushed metal, glass, bevels, shadows, reflections and more. Impact includes three all-new filters. Backlight projects dramatic light beam and spotlight effects. Brushed Metal simulates textured metal surfaces such as brushed aluminium and polished brass. Extrude gives 2D objects a classic 3-D look, adding thickness and perspective. In addition, Impact refines seven of the classic effects that made *Eye Candy* famous. Embossing effects now include surface textures and more bevel shapes. Gel, glass, chrome and liquid metal effects now showcase a wide variety of vibrant reflections.your images a suitably stylish look. The map that's used as the basis for this image scales up to a hefty 18x18 inches at a whopping 300dpi, which means it's suitable for almost all print purposes.

SYSTEM REQUIREMENTS

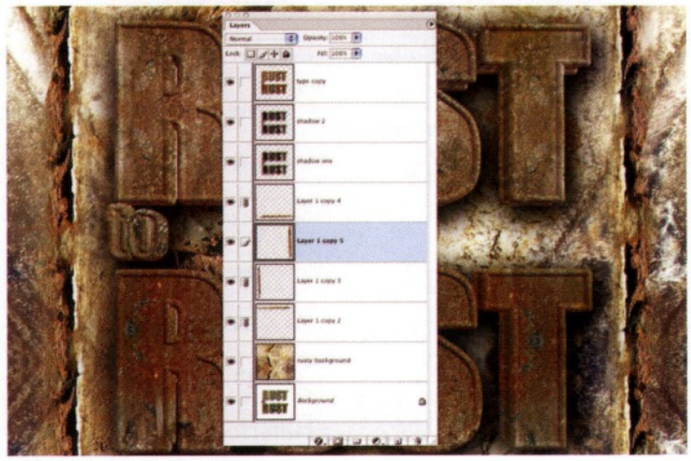
Please note – *Eye Candy 5* requires:
PC: Windows 2000 or Windows XP;
Mac OS X 10.2.6 or later
Adobe Photoshop 7 or later;
Adobe Photoshop Elements 2 or later For more information visit **www.alienskin.com**

XARA3D 3

PC ONLY FULL PROGRAM

Combine the functionality of this impressive yet easy-to-use program with Photoshop for awesome results

Xara3D sidesteps the complexity of many 3D packages, enabling you to sculpt simple 3D shapes – text for logos, titles, headings, buttons, and so forth – quickly and easily. It works by enabling you to extrude or "draw out" 3D representations of any TrueType font to generate fully controllable 3D text. You can even add another dimension to Windows Meta Files (WMFs and EMFs). Just open the graphic with *Xara3D* and start extruding. Now when you start typing, the text appears in 3D and is easy to manipulate into position. Afterwards, you can apply your own colours and textures; using the colour picker, you can even set the diffuse colour for the text. Any image can be used as a texture, so feel free to experiment – and, above all, have fun. Finally, you can add some subtle lighting effects. Three arrows indicate the direction the light beams; you simply position them as appropriate and the software sorts out the rest.

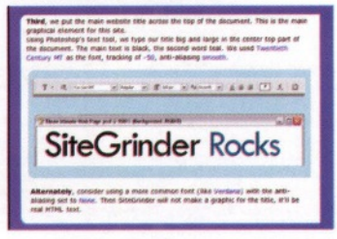


SITEGRINDER

MAC & PC TRIAL PLUG-IN

Generate an entire website from a single Photoshop image

Take the tedium out of website design by doing web designing from within *Photoshop* itself. SiteGrinder uses *Photoshop* layers as the basis for your website navigation elements. You simply add keywords to your layers' names, such as "-button", "-rollover" and "-link", open *SiteGrinder* from *Photoshop*'s Automate menu, and click the Build button. *SiteGrinder* now creates buttons, elements that change when the mouse rolls over them, and links, automatically; and can also create more complex navigation elements, such as navbars, menus and submenus, even turn a text layer into a multi-item menu if you affix "-menu" to the end of the layer name. And, as the name suggests, it doesn't just create single pages; *SiteGrinder* can generate an entire website in a single pass. Pages generated by *SiteGrinder* are also automatically linked to each other.
Flash tutorials for using SiteGrinder and a Mac OS X version are available from **www.medialab.com/sitegrinder**



Index

1,2,3...

101 tips **212**

2D & 3D, combining **183**

3D effects **183–186, 189–191**

3D rendering **137**

a

Abstract Glow **192**

Abstract type **164**

Actions **50, 214**

Add Noise filter **215, 218**

Adjustment layers **193–195**

Adobe Illustrator CS 2 **118–119, 167–171, 231–233, 252**

Adobe Photoshop CS 2 **251**

Advanced Brush Tool effects **112**

AfterEffects **242**

Aged images **90**

Airbrush **174**

Akimoto Fusako **210–211**

Alpha channels **44, 111, 137**

Ambient Occlusion **239–241**

Anaglyph images **189–191**

AnaglyphMaker **189,191**

Anti-aliasing **178–181**

atomicattack **16**

Audio Annotation Tool **219**

Auto Levels command **223**

Automate menu **48–53**

b

Barthes, Roland **11**

Batch processing **48, 50–52**

Bitmap conversions **97–101**

Blur filters **84–89**

book cover design **168**

Brush Tool configuration **113–117**

brushed metal **64**

brushes, custom **114**

brushes, textured **118**

Bump maps **241**

Burn effects **108**

Burn Tool **104, 160–163, 175, 214**

c

Carved effects **127**

CG Talk **183**

Channel options **110**

Channels **42–47**

Cinema 4D **236**

Clouds filter **215**

CMYK **34, 44, 104**

Color Balance adjustment **165, 175**

Color burn **173**

Color Range selections **153, 155–156**

Color Replacement Tool **215, 222**

Colour enhancement **172–175**

Colour management **31–35**

Colour Management **31**

Colour profiles **28, 32–35**

Composition **173, 196**

Conditional mode change **52**

Contact Sheet feature **52**

Convert Point Tool **160–163**

cover tutorial **172**

Curves dialog **166**

d

De Saussure, Ferdinand **11**

Decay effects **128**

Depth of field effect **86, 224**

depth, adding **131**

Diffuse Glow filter **124**

Digital Vision **85**

Direct selection tool **170**

Displacement maps **124**

displacement maps **124**

Distort filters **122–127**

Dodge Tool **160–163**

downsampling **39**

dpi (dots per inch) **39**

drop shadow **107**

droplets **51**

dye-sublimation **41**

dynamic lighting **102**

e

Ellipse tool **29, 170**

Eraser tool **146**

Evening, Martin **68–69**

experimenting **101**

Eyes, how to paint **144–146**

f

faces **144–146**

fashion **25, 158**

fax paper **109**

Fibers filter **215**

Film Grain filter **222**

Filters **76, 84**

Flash **231–233**

Free Transform **111**

Freeform 3D **182**

Freehand **27, 225–228**

Fusako Akimoto **210**

g

Gamut, Colour **33**

Gaussian Blur filter **110, 198, 193–195, 223**

Geometric patterns **125**

Gradients **62**

Graffiti **230, 234**

h

Halftone effects **39, 97–101**

History palette **214**

i

Illustrator **118–119, 167–171, 231–233, 252**

Image-based lighting **239–241**

ImageReady **220–221**

Improve your figures **238**

Info palette **215**

inkjet **33, 134**

k

Kai and Sunny **168–171**

kitsch **91**

l

laser printer **41**

Layer Comps **215**

Layer masks **155–157**

Layer styles **174–175**

Lens Blur filter **86–87, 217**

Lens Blur filter **217**

Lighting effects **102–107**

Lips, how to paint **150–152**

Liquify filter **215**

lpi (lines per inch) **39**

m

Macromedia Flash **230**

Magic Wand Tool **179, 181**

Match Color command **218, 222**

Maya **183–185**

Me Compnay **140–143**

Median filter **215**

mental ray **183**

merged layers **136**

Mix design elements **26**

Monitor callibration **33**

Motion blur effect **88, 200**

MP3 player **61**

Multi-element artwork **153**

n

Navigator palette **214**

Noses, how to paint **147–149**

o

outline colour **169**

Overprint effects **225–228**

p

Paint Bucket tool **179**

Pantone colours **169, 171**

Paths **174–175**

PDF **41**

Pen Tool **160–163**

Photo filter adjustment **218**

photography **32, 54**

Photomerge command **222**

Photo-montage **106**

Photorealism **61–65**

Photoshop 7 **144**

Photoshop for professionals **20**

Picture Bridge **52**

Picture Package feature **53**

pixel **38**

Pixel art **177–181**

Plug-ins **73**

Polar Coordinates filter **222**

portraits **144**

Poser 6 **239–241, 254**

Index continued...

q

Quick Mask mode 44

r

rasterise 64

RealViz Stitcher Express 1.0 253

real-world techniques 108

resample image 40

Resolution 36

RGB 34, 44, 104

rough sketch 169

s

scanning 39, 109

scripts 51

Semiotics 10–14

Shadows, realistic 63

Sharpen 157, 166

Shortcuts 214–223

Smart Blur 85

Smudge Tool 115, 194

Snap to grid 171

soft proofing 34

Softimage|XSI 3.5 193

spackled brush 145

Sponge Tool 215

spot channels 44

spot colours 44, 45

Spray can effects 202

storyboarding 22

Styles palette 214

t

tablet 145

Threshold adjustment 156–157, 231–232

Tool presets 215

Transform 30

Type effects 165–167

type paths 120

u

Undo 93

Unsharp Mask filter 215

v

Vector graphics 169, 231–233

Vector shapes 214

w

waste painting 70

Water, applying to prints 134–137

Wave designs 126

Westwood, Vivienne 25, 159

Wide andle pitch 125

Winter montage 153–157

z

Zoom 146

FUTURE PUBLISHING LTD
30 Monmouth Street, Bath BA1 2BW
www.futurenet.co.uk
Tel 01225 44 22 44 Fax 01225 44 60 19

Operations Editor Matt Nailon
digitalbookazines@futurenet.co.uk
Computer Arts Senior Editor Paul Newman
Art Editors Andy Ounsted, Richard Llewellyn
Production Editor Mike McNally
Senior New Media Editor Matt Gallimore
DVD Editor Tom Rudderham

Production Co-ordinator Diane Ross
Marketin g Manager Fiona Tully

Publisher Kelley Corten
Publishing Director Dom Beaven

Distributed through the UK Newstrade by
Marketforce (UK) Ltd, 5th Floor, Low Rise Building,
Kings Reach Tower, Stamford Street, London, SE1 9LS

Printed in the EU
Overseas Distribution by Future Publishing Ltd.

OVERSEAS LICENSING
International Director Simon Wear
Head of International Licensing Tim Hudson
All enquiries: tim.hudson@futurenet.co.uk

SUBSCRIPTIONS & BACK ISSUES
If you have a query regarding a subscription or back issue, or would like to place an order, please contact our customer services team:
Telephone: +44 (0)870 837 4722
Email: customerservice@futurenet.co.uk

www.myfavouritemagazines.co.uk

All contents © 2005 Future Publishing Ltd

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior permission of the publisher.
Websites mentioned in this publication are not under our control. We are not responsible for the contents of these sites or any changes or updates to them.
None of the information in this guide is intended as legal advice. The articles are for information purposes only.

Future Publishing Ltd is part of Future plc.
Future produces carefully targeted special-interest magazines for people who share a passion. We aim to satisfy that passion by creating titles offering value for money, reliable information, smart buying advice and which are a pleasure to read. Today we publish more than 100 magazines in the UK, US, France and Italy. Over 100 international editions of our magazines are also published in 30 other countries across the world.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR).

Non-executive Chairman: Roger Parry
Chief Executive: Greg Ingham
Managing Director Robert Price
Group Finance Director: John Bowman
Tel +44 1225 442244

www.futureplc.com
BATH ● LONDON ● MILAN ● NEW YORK
PARIS ● SAN DIEGO ● SAN FRANCISCO

THE COMPLETE PHOTOSHOP CREATIVE HANDOOK

Everything you need to master new Photoshop skills and techniques

→ STEP-BY-STEP TUTORIALS
Perfect your imaging skills with our inspiring Photoshop tutorials – great results guaranteed

→ CUTTING-EDGE ADVICE
Master lighting effects and textures, create neon type, design book covers and much more

→ EXPERTISE YOU CAN TRUST
The only Photoshop guide written entirely by the world's leading Photoshop professionals

→ ILLUSTRATION SECRETS
Discover how to design like the professionals by combining Photoshop with illustration apps

→ INTERACTIVE LEARNING
Resource files for each tutorial included on your free DVD – create while you learn!

→ UNBEATABLE VALUE
260 pages of the very best Photoshop advice, handpicked from the pages of *Computer Arts*

→ ON YOUR BONUS DVD-ROM...

- Photoshop CS2 trial (Mac and PC)
- Resource files for every tutorial
- Photoshop video training
- Full version software

For complete cover disc contents, see page 250

ISBN 1-858701-93-7
9 781858 701936 32>
PRICE £14.99 NET UK

Future MEDIA WITH PASSION

Published by Future Publishing Limited
30 Monmouth Street, Bath BA1 2BW, United Kingdom
Telephone +44 (0) 1225 442244
www.futurenet.co.uk

All content © 2005 Future Publishing Ltd.